



Conservatorium of music

Technical Demands of Selected Contemporary Works for Violin

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Statement

The research work described in this exegesis was undertaken at the Conservatorium of Music, the University of Tasmania between March 2003 and June 2006.

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Abstract

This exegesis provides an overview of selected contemporary works composed for the violin over the past four decades. It elaborates on the practical demonstration and interpretation of contemporary composition, as well as some of the ideas and innovations that have shaped performance practice. Live and recorded performances and a web-based demonstration are used to illustrate a variety of technical and expressive demands placed on the performer of the selected violin repertoire.

Three recorded doctoral recitals demonstrate links between traditional and contemporary violin music. The intention of the recitals is to show the audience that contemporary violin music is accessible to both player and audience. The ideas that underpin this music are explored in the written component of the exegesis.

Some of the issues facing performance of contemporary music are addressed, with particular emphasis on the influence exerted by the experimental movement and the indeterminist style. The intention is to consider music and musical practice that pushes the boundaries of the traditional classical paradigm. Works studied in depth are by composers Luciano Berio, Robert Davidson, Damien Ricketson and Clarence Mak.

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Chapter One

Introduction

This introductory chapter will outline the musical developments that have influenced solo violin repertoire during the past forty years. It will examine compositions which have not previously been investigated or discussed, using short musical excerpts and complete pieces for the violin, composed in the last four decades. There will be a review of the secondary literature that has informed this research project. While some contemporary composers use the solo violin quite conventionally, others have expanded the sound potential of the instrument through modifications and extensions of conventional playing techniques, as well as the development of entirely new techniques, and the use of technology. This period has seen great exploration of the sonic capabilities of the violin, and has increased demands on players faced with unfamiliar technical requirements. This chapter will consider:

- 1.1 Historical background
- 1.2 Literature review, and
- 1.3 Rationale for this exegesis.

1.1 Historical background

Current contemporary art music covers a rich variety of approaches styles and processes.

These categories can be approximately classified under the following headings:

- conventional neo-Romantic writing
- minimalism
- modernism
- the integration of elements of non-western music, popular music

- indeterminism, and
- an ongoing development of an interface with modern technology.

Experimental or avant-garde music of the last four decades has vastly increased the range of techniques and possibilities for today's composers and also has expanded and/or modified the conventions of music notation. Composers to whose works I will refer are:

- Theodore Antoniou (b.1935)
- Luciano Berio (1925-2003)
- John Cage (1912-1992)
- Elliott Carter (b.1908)
- George Crumb (b.1929)
- Pascal Dusapin (b.1955)
- Franco Donatoni (1927-2000)
- Brian Ferneyhough (b.1943)
- Philip Glass (b.1937)
- Aram Khachaturian (1903-1978)
- Helmut Lachemann (b.1935)
- Hans Ulrich Lehmann (b.1937)
- Luigi Nono (1924-1990)
- Krzysztof Penderecki (b.1933)
- Larry Polansky (b.1954)
- Gunther Schuller (b.1925), and
- Iannis Xenakis (1922-2001).¹

¹ Appendix O is a list of the music repertoire written for solo violin and violin and piano between 1960 and 2006.

The relationship between the composer and performer of experimental music is often very close. Frequently, the composer is involved in directing or participating in the performance of his/her composition. Some composers, for example, Phillip Glass (b.1937) and Steve Reich (b.1936), have formed ensembles for the express purpose of performing their own works, perhaps implying the difficulties the contemporary composer may encounter in having new works performed.

Luciano Berio (1925-2003)

A great deal of the music written in the twentieth and twenty-first century was composed for and dedicated to outstanding performers, hopefully ensuring or at least providing for a premiere of a new work. Berio's *Sequenza* series² provides an example of this. As indicated on the score, each *Sequenza* has been dedicated to a specific performer: *Sequenza III* for voice was written in 1965 for Cathy Berberian³ and *Sequenza VII* for oboe was written in 1969 for Heinz Holliger.⁴ Many contemporary composers of experimental music work closely with the intended performer during the period of composition. This collaboration is mutually beneficial, enabling the composer to refine his/her work based on feedback from the performer. At the same time, the composer can discuss with the performer the precise effects which he/she has in mind. Live or recorded performances approved or directed by the composer are more likely to give a much clearer indication of musical intention than the published score on its own. This also ensures a more direct line of communication between the composer and his/her audience.

² Appendix N details the *Sequenza* series.

³ Cathy Berberian (1925-1983), first wife of Berio, American mezzo soprano, specialist in modern music.

⁴ Heinz Holliger (b.1939), Swiss composer, oboist, conductor, and pianist.

Interface with Modern Technology

Since 1960 there has been an increase in the exploration and use of the violin's incredible ability to create and imitate an extensive variety of sounds. The innovative works from this period, such as George Crumb's *Black Angels: Thirteen Images from the Dark Land* (1970), make technical demands on the performer resulting in the production of sounds that would have been considered unmusical in earlier times. Nevertheless, there has been a continuity of technical development, built on knowledge of the violin's traditional capabilities. *Sequenza VIII* (1976) by Luciano Berio (1925-2003) was inspired by the Chaconne of the Partita in D minor (BWV1004) by Johann Sebastian Bach (1685-1750).⁵ Even though *Sequenza VIII* (1976) produces vastly different sounds from those of Bach's Chaconne, Berio has borrowed and expanded upon the musical ideas and intentions of Bach.⁶ A new translation of traditional ideas has been a major feature of the musical revolution of experimentalism which has evolved through the last quarter of the twentieth-century. The use of non-conventional instruments, the non-conventional use of traditional instruments, use of amplification and a range of modifications to the instrument have challenged the listener and have achieved a degree of acceptance of such avant-garde music.

New York School

The shift from conventional to non-conventional was sometimes dramatic, as Erik Satie (1866-1925) has demonstrated. Satie's landmark indeterminate piece *Vexations* (1893) has made a significant contribution to redefining the nature of musical communication. His twenty-four hour marathon work for piano was an historic precursor to the work of

⁵ Luciano Berio, liner notes, *Sequenza VIII per Violino*, trans. David Osmond-Smith (Hamburg: Deutsche Grammophon, 1998, 457 040-2), 17.

⁶ Ibid., 17.

minimalist composers such as John Cage (1922-1992), Morton Feldman (1926-1987),⁷ and Cage's associates David Tudor (1926-1996), and Earle Brown (1926-2002).⁸ These composers have been strongly influenced by Satie's breaking of convention. Cage explored the possibilities of indeterminism using a very broad range of musical strategies⁹ including, for example, *I-Ching* charts,¹⁰ and random numbers.¹¹ Feldman's piece *For John Cage* (1982),¹² for example, distorts our expectation of musical duration. Like many of his works it has been written using an extended time scale, demanding at least one and a half hours for only one movement.¹³

L'Institut de Recherche et Coordination Acoustique/Musique (IRCAM)

L'IRCAM (*L'Institut de Recherche et Coordination Acoustique/Musique*) is the European counterpart to The New York School. This institution is possibly the most distinguished one specialising in electronic and computer music.¹⁴ It was established in Paris under Boulez's directorship in 1974.¹⁵ Pierre Boulez (b.1925), Karlheinz Stockhausen (b.1928) and Iannis Xenakis (1922-2002) were leading musicians of electro-acoustic musical innovation from this institution.

⁷ David Cope, *New Directions in Music* (Dubuque: Brown and Benchmark, 1993), 165.

⁸ Stephen Peles, "Serialism and Complexity" in *The Cambridge History of American Music*, ed. David Nicholls (Cambridge: Cambridge University Press, 1998), 509-511.

⁹ Ottó Károlyi, "From Tonality to Atonality" in *Introducing: Modern Music* (London: Penguin Group, 1995), 50-52.

¹⁰ *I-Ching* is 64 hexagrams of the Chinese classic text. An example of this idea is the third movement of Cage's *Cheap Imitation* (solo violin version). A source is from John Cage, *Cheap Imitation*, with a preface by John Cage (New York: Henmar Press Inc., 1977), 2-3.

¹¹ Tossing of dice to determine the way the score was to be read or performed. *Introducing: Modern Music* by Ottó Károlyi. An example of this idea is Cage's *Two*⁶ for violin and piano.

¹² Morton Feldman, *For John Cage* (London: Universal Edition, 1982).

¹³ New Albion Records, *Morton Feldman* [Internet on-line]; available from <<http://www.newalbion.com/artists/feldman>> [8 May 2005].

¹⁴ Alastair Williams, "Ageing of the New: the Museum of Musical Modernism," in *The Cambridge History of Twentieth-Century History*, eds. Nicolas Cook and Anthony Pople (Cambridge: Cambridge University Press, 2004), 506-7.

¹⁵ *Ibid.*, 506-7.

Both Stockhausen and Boulez used indeterminate ideas to focus on electronic components or concepts which can be seen in their later works. Stockhausen and Boulez have composed only a few pieces of violin music, but these works clearly exemplify how they use computers, electro-acoustics, and the concept of chance, in their compositions. Examples of these compositional devices and performance approaches are illustrated in Stockhausen's *In Freundschaft* (1977)¹⁶ and Boulez's solo violin piece *Anthèmes 2: pour Violon et Dispositif Électronique* (1997).¹⁷

Minimalism

The use of electronic composition has been a formative component of the subsequent minimalist movement. La Monte Young's *Composition 1960 No.5* (1960)¹⁸ defined minimalism and influenced future composers such as Terry Riley (b.1935), Steve Reich (b.1936), and Philip Glass (b.1937).¹⁹ Riley's *In C* can be played by various combinations of instruments and the length of the piece is determined by performers.²⁰ Reich's *Violin Phase* (1967) requires the performer to play with a pre-recorded tape with an assistant on the stage in the live performance.²¹ Glass indicates the performer has to walk along the "L" shape of the music exhibited while performing *Strung Out*.²² All of these are examples of minimalism combined with aleatoric style.

¹⁶ Karlheinz Stockhausen, *In Freundschaft* (Kürten: Stockhausen-Verlag, 1983). *In Freundschaft* can be performed by different types of instrument such as, violin, oboe or clarinet.

¹⁷ It was written for solo violin, computer and six loudspeakers.

¹⁸ *Composition 1960 No. 5* requires the performer to let a butterfly loose in the concert hall.

¹⁹ Paul Griffiths, "Minimalism and multiplicity" in *Modern Music: A Concise History* (New York: Thames and Hudson, 1985; revised edition, New York: Thames and Hudson, 1994), 187 (page citation is to the revised edition).

²⁰ Richard Toop, "Minimalism and Psychedelia," in *The Cambridge History of Twentieth-Century History*, eds. Nicolas Cook and Anthony Pople (Cambridge: Cambridge University Press, 2004), 466-467.

²¹ Steve Reich, "Directions for Performance" in *Violin Phase* (London: Universal Edition, 1979).

²² Untitled "Philip Glass. List of Compositions 1965-1975" [year 1967 *Strung Out*] [Internet on-line]; available from <http://216.239.37.104/translate_c?hl=en&u=http://www.arconet.es/users/rosado/philipg.htm&prev=/search%3Fq%3D%2522strung%2Bout...> [28 August 2004].

1.2 Literature review

Although there have been a number of publications which address technical demands on violinists in avant-garde music, investigation has not been comprehensive. This literature survey will focus on music for violin composed between 1960 and 2006, and on publications which have analysed technical requirements for the performance of these compositions. During this period, compositional notation using symbols and specially devised terminology is not entirely standardised. Different composers create and define their ideas in different ways.

Patricia Strange and Allen Strange's *The Contemporary Violin: Extended Performance Techniques* published in 2001²³ is an exploration of contemporary violin music, with numerous examples of recent music. The book discusses a number of bowing and fingering techniques including extended techniques such as percussive sound production and diverse *harmonics*. It also refers to alternative tuning systems, amplification and signal processing, and concludes with MIDI²⁴ and computer techniques. The authors have included a list of Internet resources which provide the reader with a guide to current developments in performance practice and composition of contemporary music. Included in this publication are more than 475 explicit examples from published and private manuscripts, extensive scores, a very useful bibliography and a discography which lists more than 130 recordings. Although the publication gives a large number of musical examples, as well as notes on modifications of the violin and the application of technology to violin performance, it does not make reference to significant compositions by some

²³ Patricia Strange and Allen Strange, *The Contemporary Violin: Extend Performance Techniques* (Berkeley: University of California, 2001).

²⁴ Musical Instrument Digital Interface.

well-known composers such as *Sonate-Monolog for Solo Violin* (1975) by Aram Khachaturian (1903-1978) and *Sequenza VIII* (1976) by Luciano Berio (1925-2003).

A useful reference for teachers and students is the 1992 edition of Jacques Ghestem's *Approche de la Musique Contemporaine au Violon*,²⁵ which comprises two separate documents. A three-page technical synopsis *inventaire et notations* constitutes the first half of the first volume of this guide. It illustrates symbols and their abbreviations as well as left and right hand techniques followed by brief explanations.²⁶ The second half of the first volume of *théorie et pratiques* documents the use of theoretical and practical ideas. It demonstrates several left and right hand techniques individually followed by effective exercises to assist the learning process.²⁷ The last page of volume one of *Approche de la Musique Contemporaine au Violon* contains *tableau synoptique*, which shows various technical applications as utilised by ten different composers in their compositions. The learner may focus on these technical requirements before attempting to learn any of the works comprised in the second volume. The second volume is *oeuvres*, which contains ten short violin pieces by ten different contemporary composers. These ten short pieces present different technical challenges to solo performers as well as to ensembles. Nevertheless, in this publication technical requirements, interpretation and musical expression only are addressed in a general way.²⁸

²⁵ Jacques Ghestem, ed. *Approche de la Musique Contemporaine au Violon* (Paris: Gérard Billaudot Éditeur, 1992).

²⁶ Ibid., 6-8.

²⁷ Ibid., 10-22.

²⁸ Eleanor F. Trawick, music review of *Approche de la Musique Contemporaine au Violon*, Jacques Ghestem ed., *Notes-Quarterly Journal of the Music Association* 52:1 [September 1995]: 306-308 [Database on-line]; available from International Index to Music Periodicals – Full Text <http://iimpft.chadwyck.com/cgi/fulltext?ACTION=BYID&FILE=.%2Fsession%2F1148256686_7163&subset=2&entries=2&ID=00053612&JID=JID00274380&ROYID=LOUJID00274380> [7 April 2003].

Anthony Thomas Adessa's dissertation "Contemporary Violin Technique: Its Nature and Difficulties" (1981)²⁹ examines selected twentieth-century works including Bartók's Violin Concerto No.2 (1937-8), Schönberg's Violin Concerto (1936), Henze's Violin Concerto No.2 (1951), Feldman's *Projection 4* (1951), Maderna's *Widmung* (1967), and Xenakis's *Mikka* (1971). It provides their cultural contexts and Adessa's viewpoints of musical interpretation and discussion of efficient practice and preparation. The last chapter of Adessa's thesis is a transcript of an interview with Paul Zukofsky,³⁰ who is well regarded for his insightful comments on performance practice of contemporary music. However, the previous discussion does not include Zukofsky's performance advice.

Kenneth Lee Sarch's dissertation "The Twentieth Century Violin: A Treatise on Contemporary Violin Technique" (1982)³¹ can be considered as a handbook of contemporary violin techniques for string players (in particular violinists), as well as teachers, composers, conductors and students. It is divided into four broad categories which enable the student to easily comprehend specific techniques including the use of different types of mutes. Musical examples in this dissertation are derived from a wide range of exercises, concertos, chamber music and compositions for solo violin.

Ernest Pereira's dissertation "Twentieth-Century Violin Technique" (1987)³² provides an overview of the history of musical development from the nineteenth to the twentieth century with reference to the emergence of the first form of the violin in the ninth century. He discusses violin playing only from the time of Mozart with emphasis on twentieth-

²⁹ Anthony Thomas Adessa, "Contemporary Violin Technique: Its Nature and Difficulties" (D.M. diss., Indiana University, 1981).

³⁰ Paul Zukofsky is a prominent violinist with a successful career and has an international performance reputation. He has recorded and released a number of CDs of twentieth-century violin repertoire.

³¹ Kenneth Lee Sarch, "The Twentieth Century Violin: A Treatise on Contemporary Violin Technique" (D.M.A. diss., Boston University School for the Arts, 1982).

³² Ernest Pereira, "Twentieth-Century Violin Technique" (D.M.A. diss., University of Texas at Austin, 1987).

century violin playing techniques and on exponents such as Otakar Ševčík (1852-1934), Carl Flesch (1873-1944) and Ivan Galamian (1903-1981). It also includes discussions of twentieth-century violin compositions by well-known composers including Ravel, Debussy, Ysaÿe, Schönberg, Webern, Bozay, Prokofiev, Stravinsky and Bartók.³³ The major research focus is on the left hand technique required to perform works by these composers. It also includes discussion on specific bowing requirements for twentieth-century violin music.³⁴

Barbara G. Jackson, Kenneth Sarch and Joel Berman compiled *Dictionary of Bowing and Pizzicato Terms*³⁵ published in 1999. It discusses most twentieth-century violin techniques and provides comprehensive explanations and musical examples. In *Standard Bowing Terms*, the three authors have catalogued diverse musical terms in different languages including French, German, Italian, Spanish and English. The authors have provided a brief historical background, definitions, explanations and some excerpts as examples. The chapter *Petite Dictionary of Pizzicato* written by Kenneth Sarch is the section of the publication which is most useful to performers. It includes several photographs of a violinist demonstrating specific techniques.³⁶

Kurt Stone's *Music Notation in the Twentieth Century*³⁷ gives a general overview of the new notation and techniques utilised in twentieth-century music for different instruments. It is divided into two comprehensive parts: Part I: Basic Procedures and Part II: Specific Notation. Each part contains definitions of symbols, plus explanations of the use of

³³ Ernest Pereira, "Twentieth-Century Violin Technique" (D.M.A. diss., The University of Texas Austin, 1987), vii.

³⁴ Ibid.

³⁵ Joel Berman, Barbara G. Jackson and Kenneth Sarch, *Dictionary of Bowing and Pizzicato Terms*, 4th ed. (Indiana: American String Teachers Association, 1999).

³⁶ Ibid., 59-68.

³⁷ Kurt Stone, *Music Notation in the Twentieth Century* (New York: W. W. Norton & Company, 1980).

symbols in music for different instruments. It can be used as a manual for understanding and interpreting twentieth-century musical notation. However, this book was printed in 1980 and has not been updated thus far. Neither a number of newly invented symbols (for example, *finger percussive sounds*), nor compositions from the last twenty years have, as yet, been discussed.

1.3 Rationale for this exegesis

The rationale for this present study is based on two aspects of contemporary writing for violin: an investigation of technical requirements of the violin in this body of work and explanation and clarification of performance practice. I will discuss specific technical requirements, and interpretation and musical expression by examining musical excerpts and complete works. I will then cite technical descriptions to create a basis for musical interpretation. My research will consider violin playing techniques from both a technical and conceptual position to optimise expression and musical communication.

Chapter Two will discuss a number of technical demands on the violin and Chapter Three will examine four complete compositions by different composers. Both chapters present contemporary music that has not been examined in existing available publications. In Chapter Two, the discussion will cover technical demands on the player, including expansion of conventional playing techniques, new dramatic or acoustic environments, and non-conventional playing techniques. Chapter Three will investigate four selected works demonstrating individually different musical styles and technical requirements. The four selected compositions are *Sequenza VIII per Violino Solo* (1976) by Luciano Berio (1925-2003); *Arch Canon for Three Violins* (1992) by Robert Davidson (b.1965); *Prakour for*

Solo Amplified Violin and Delay (1994) by Damien Ricketson (b.1973); and *Image for Solo Violin* (1999) by Clarence Mak.

The introduction of technology enlarges the possibility of musical choice for both composer and performer. Live and recorded performances form part of the documentation of this study. This exegesis will introduce a new dimension into the analysis and performance of twentieth-century music by video demonstrations of playing techniques and the use of a website. (See Appendix J.) This multi-media format is an accessible teaching and learning tool that makes use of recent technology and overcomes limitations presented by teaching and learning through exclusively written work. The musical discussion in this study will focus on sound production and the performance approach rather than on historical background citation. The study will discuss significant techniques which have been utilised on the violin, concentrating on musical understanding and performance interpretation.

Chapter Two

Technical Demands of the violin after 1960

In the last four decades of the twentieth century, playing techniques have been extended to produce a wide variety of different specific sounds, qualities not taken to such literal extremes until that time. The well-established repertoire for the instrument relies on the violin's ability to capture the emotive qualities of the human voice, the brilliant qualities of the instrument in its upper register and its ease of execution. Percussive sounds, extreme frequencies, complex *microtones* and use of unusual parts of the instrument for sound production, are now accepted as part of a contemporary violinist's capabilities. Some contemporary composers exploit these characteristics of violin playing to such an extreme degree that it might be considered abuse of the instrument, adding to the reluctance of some violinists to embrace contemporary music as a part of their repertoire. In addition to a high level of conventional technical proficiency, much recent music for the violin requires a highly developed but free-ranging imagination and a sophisticated intellectual capacity for analysis in order to capture the mood and communicate this to an audience. Specific technical markings in contemporary violin music do not indicate embellishment but instruct the performer in conceptual interpretation.

This chapter will consider specific techniques conceived of for the violin and explored in violin music over the last four decades. Technical demands and innovations will be discussed in three categories. (See Table 2.1.)

Table 2.1 Table showing the category of technical demands and innovations applied to the violin in the last four decades

Category	Definition
1 Extensions of conventional playing techniques	Conventional playing techniques refers to those techniques that have been employed in standard nineteenth century and early twentieth-century music, but which are adapted in late twentieth-century writing, requiring an exaggeration of the basic posture, dynamics and/or modification of the manner of playing.
2 Environmental manipulation of conventional playing techniques (for instance, amplification)	Environmental manipulation of conventional techniques refers to the combination of the conventionally played violin with new technology, or in non-conventional spatial or environmental arrangements, and may involve the assistance of a sound engineer.
3 Non-conventional playing techniques	Sounds produced by non-conventional playing techniques constitute a further expansion of sonic possibilities and include production of sound from any part of the violin using objects other than, or in addition to, the bow or the fingers.

Category 1: Extensions of conventional playing techniques

While recognising that neither right nor left hand technique can be considered in isolation, for the purpose of clarity, avant-garde playing techniques will be divided into three categories; those required to be mastered by the right hand; those which demand concentration on the left hand and a combination of left hand and right hand technique. (See Table 2.2.)

Table 2.2 Table showing techniques applied to right hand and left hand

Right/Left hand	Technique
Right hand	<i>Bartók pizzicato</i> <i>Sul tasto</i> <i>Sul ponticello</i> <i>Col legno</i> <i>Col legno battuto</i> <i>Col legno tratto</i> <i>Gettato</i> <i>Loosened bow hair</i> <i>Sustaining a sound</i> <i>Hypo-pressure</i> <i>Hyper-pressure</i> <i>Bow getting stuck</i> <i>Tremolo</i>
Left hand	<i>Senza vibrato</i> <i>Vibrato</i>
A technique which involves both hands at the same time	<i>Delayed resonance</i>

Right Hand Techniques

Bartók pizzicato

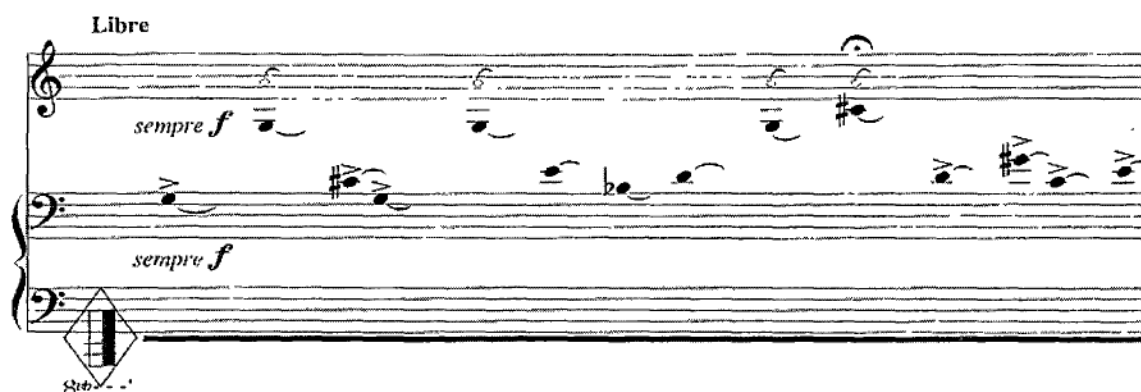
Bartók pizzicato is the first specific technical instruction that should be mentioned in this category, due to its familiarity. It has been used extensively in both solo violin music and orchestral music by many composers since Béla Bartók (1881-1945).³⁸ The execution of *Bartók pizzicato* needs to be more exaggerated and more aggressive than that of standard *pizzicato* in order to be successful. The notation of *Bartók pizzicato* has become semi-standardised; in Bartók's music it is always denoted by ϕ ,³⁹ but more recently it has been given a variety of symbols such as σ , ϕ or φ . *Bartók pizzicato* is specifically percussive, achieved on the violin by actually lifting the string with two fingers (usually the thumb and

³⁸ Peter Tanfield, note to the author, 2004-2005.

³⁹ For example, Béla Bartók, *Music for Strings, Percussion and Celesta* (Wien: Universal Edition A. G., 1937; renewed, New York: Boosey & Hawkes, Inc., 1965) and Béla Bartók, *Divertimento* (London: Boosey & Hawkes, 1940).

the index finger or the middle finger) vertically and releasing the string, which then snaps back to the fingerboard with a big “bang” or “snap” sound in addition to the note’s own pitch resonance.⁴⁰ In Figure 2.1, *Bartók pizzicato* notation δ as used by Gérard Gastinel in *Heptade* can be seen clearly in the upper part of the violin staff. (See Appendix J for a performance of this piece featuring *Bartók pizzicato*.) (See Figure 2.1.)

Figure 2.1 *Bartók pizzicato* in *Heptade: pour violon et piano*, system 1, p. 40 by Gérard Gastinel



In executing *Bartók pizzicato* a potential problem is the tuning of the strings, which may be upset due to the harshness of the technique. This possibility must be considered prior to any performance. If the music is not continuous the violinist will be able to find a suitable opportunity to re-tune the strings. If the music is continuous and the performer is unable to re-tune the violin during the performance, there is, of course, very little that can be done, but there are some ways to minimise tuning problems when *Bartók pizzicato* is involved. One suggestion is to avoid plucking open strings where stopped notes are possible alternatives. This helps to avoid pulling the strings at their longest, thus helping to reduce leverage and thereby somewhat reducing slippage or pulling of the string out of tune.⁴¹

⁴⁰ Joel Berman, Barbara G. Jackson and Kenneth Sarch, “Snap Pizzicato,” in *Dictionary of Bowing and Pizzicato Terms*, 4th ed. (Bloomington: American String Teachers Association, 1999), 67.

⁴¹ Peter Tanfield, note to the author, 2005-2006.

Sul tasto and *Sul ponticello*

All violinists are familiar with instructions such as *sul tasto* (placing the bow over the fingerboard),⁴² *sul ponticello* (placing the bow on/upon the bridge),⁴³ *col legno* (drawing the bow stick across the string)⁴⁴ and *tremolo*⁴⁵ (using a very small and un-accentuated *détaché* bow stroke). For the *tremolo* playing technique see Figure 2.14. Contemporary composers frequently use these techniques in a cyclic combination. (See Figure 2.2.)

Figure 2.2 *Sul tasto, sul ponticello and normal playing circular patterns in Petit Interlude pour violon seul, bars 21 – 25, p. 33 by Marc-André Dalbavie*



N indicates normal playing (the bow in contact with the strings approximately between the bridge and the finger); S.T. means *sul tasto*; S.P. means *sul ponticello*; and multiple diagonal strokes through the stem of the note indicates *tremolo*. In the excerpt quoted in Figure 2.2 the composer requires the bow to travel back and forth on the string(s) between the bridge and the end of the fingerboard.

Col legno

Col legno is a bowing technique requiring the player to turn the bow on its side so that the wood and some of the hair are in contact with the strings. Composers specify which variety of *col legno* is required, either *col legno battuto* (striking with the stick) or *col*


⁴² Joel Berman, Barbara G. Jackson and Kenneth Sarch, "Tasto," in *Dictionary of Bowing and Pizzicato Terms*, 4th ed. (Bloomington: American String Teachers Association, 1999), 53. *Sul tasto/sulla tastiera* (It.); *sobre el diapason* (Sp.); *sur la touché* (Fr.); and *am Griffbrett* (Ger.).

⁴³ Ibid., "Ponticello," 38. *Sul ponticello* (It.); *Steg, am Steg* (Ger.); *puentecillo/sobre el puentecillo* (Sp.); *chevalet/sur le chevalet* (Fr.).

⁴⁴ Ibid., "Tremolo," 55-57.

⁴⁵ Ibid., "Détaché," 18-19. *Détaché* (Fr.).

legno trattuto (drawing the stick of the bow across the strings), by using words, or symbols

over the note, such as a wedge mark over the note (▼),⁴⁶ or .⁴⁷ *Col legno battuto*

sound is percussive but with a clearly resonant timbre not totally obscured by the percussion. Usually the upper part of the stick is employed in *col legno battuto*. Using the bow as shown by the straight line in Figure 2.3 will give the best control of the percussive element combined with resonance. (See Figure 2.3.)

Figure 2.3 Division of the bow for *col legno battuto*



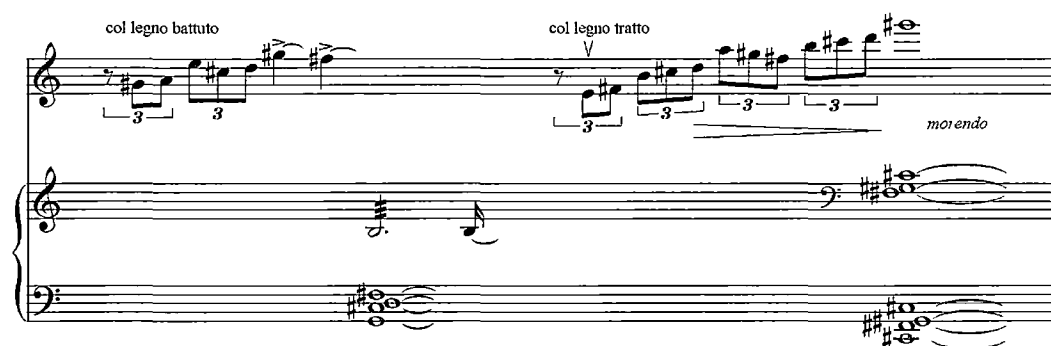
Tapping the string with the stick over the fingerboard may probably cause small dents in the stick, particularly if the bow hits the string with any degree of force. To avoid damage to a valuable stick it is advisable to choose a point of contact not directly over the fingerboard. A further possibility to avoid this problem is to change bows according to need during the piece. (Performers have to find an appropriate moment, of course, to change bows.) Another possibility is to apply the stick angled so that some bow hair makes contact with the string, thereby protecting the wood of the stick to some extent. Playing with half of the wood of the bow stick and half of the bow hair together offers better quality *col legno* sound and protects the stick. If performers have sufficient time they can exchange the bow for a substitute tool - such as a simple stick - to play *col legno battuto* in solo or orchestral music. Kenneth Sarch suggests wrapping tape on the wood stick of the bow although this is only an option when *col legno tratto* is not employed in the same piece.⁴⁸ (See Appendix J for a performance of this piece.) (See Figure 2.3.)

⁴⁶ Kenneth Lee Sarch, "The Twentieth Century Violin: A Treatise on Contemporary Technique" (D.M.A. diss, Boston University School for the Arts, 1982), 15.

⁴⁷ Example of *col legno battuto* symbol from *Dreamings* by Richard David Hames.

⁴⁸ Kenneth Lee Sarch, "The Twentieth Century Violin: A Treatise on Contemporary Technique" (D.M.A. diss.,

Figure 2.4 *Col legno battuto* and *col legno tratto* in *Heptade pour violon et piano*, mvt. VI, system 6, p. 45 by Gérard Gastinel



As shown in Figure 2.4, the alternation of *col legno battuto* with *col legno tratto*, has become familiar in twentieth-century violin repertoire. While playing *col legno tratto* the violinist should hold the bow as for playing *col legno battuto*, except that the bow is drawn over the string instead of swinging around the pivot point of the heel of the bow in order to strike the string. (See Figure 2.4.)

Gettato

The use of percussive sounds on the violin has become more acceptable in the twentieth-century. *Gettato*⁴⁹ bowing is another type of percussive sound which is essentially an extension of *ricochet*.⁵⁰ (See Figures 2.5 and 2.6.)

Boston University school for the Arts, 1982), 16.

⁴⁹ *Gettato* (It.) means to throw the bow upon the string so that the stick of the bow can bounce. Joel Berman, Barbara G. Jackson and Kenneth Sarch, "Gettato," in *Dictionary of Bowing and Pizzicato Terms*, 4th ed. (Bloomington: American String Teachers Association, 1999), 24-25 and 40-41.

⁵⁰ *Ricochet* (Fr.). A series of notes, more than two, are slurred and, characteristically, very fast bounces are performed, usually in the upper-half of the bow. The bow is dropped or struck upon the string in such a way that the initial impetus and natural elasticity of the bow gives rise to a spontaneous series of successive bounces. Ibid., "Ricochet," 40-41.

Figure 2.5 *Gettato* bowing with little pressure in *Arco*, system 5, p. 28 by Hans Ulrich Lehmann



Figure 2.6 *Gettato* bowing with much pressure in *Arco*, system 4, p. 27 by Hans Ulrich Lehmann



Hans Ulrich Lehmann uses a single-line downward arrow (↓) to indicate playing with little pressure (see Figure 2.5) and double-line downward arrow (⇓) to indicate playing with greater pressure (see Figure 2.6). The performer has to lift the bow vertically, dropping or throwing it on to the string with pressure as indicated, and then allowing the bow to bounce on the string according to the indication given by the composer. (See Figures 2.5 and 2.6.)

Figure 2.5 shows that the point of the bow should be used and that the bow should bounce on the string with little pressure for as long as possible. In Figure 2.6, the composer requires the performer to perform the technique with increased force, to flatten the bow (for instance, the stick is turned so that it touches the string as well as the hair) and to lift it so as to hit the string with great pressure followed by the *glissando* left hand finger movement. (See Appendix J for a performance of this piece featuring *gettato*.) (See Figures 2.5 and 2.6.)

Loosened bow hair

Loosened bow hair is a modification of conventional bowing technique. In conventional bow use, the hair has to be tightened sufficiently to allow the bow to bounce when dropped on to the string. When the bow is “drawn across the strings with considerable weight applied, a good quality of sonority is achieved with the minimum of effort.”⁵¹ *Loosened bow hair* is obviously contrary to this idea. In this technique “the hair is loosened and thus unevenly spread, so that the bow stick itself is intermittently in contact with the string, splaying the hair, or sometimes catching strands against the string.”⁵² It may be regarded as a type of modified *col legno tratto*. There must be no tension in the bow hold. As the bow cannot bounce, the only real support is from the wood of the bow and the violinist’s right hand which is in contact with it. Playing with slack bow hair will produce “very soft, thin, and distant sound.”⁵³ (See Figure 2.7.)

Figure 2.7 *Loosened bow hair* in *Cheap Imitation*, mvt. III, bars 1 – 4, p. 16 by John Cage



Bars 1 to 4 from the third movement of John Cage’s *Cheap Imitation* (1977) exemplifies the use of *loosened bow hair* technique. (See Figure 2.7.) Instructions for utilising the technique are given in brackets above the score. (See Appendix J for a performance of this piece featuring this technique.) (See Figure 2.7.)

⁵¹ Peter Tanfield, note the author, 2005–2006.

⁵² Ibid.

⁵³ Joel Berman, Barbara G. Jackson and Kenneth Sarch, “Loosened the bow,” in *Dictionary of Bowing and Pizzicato Terms*, 4th ed. (Bloomington: American String Teachers Association, 1999), 30.

Sustaining a sound

Sustaining a sound is far from new; however, *sustaining a sound* for long periods requires a fairly slow bow speed which can create difficulties for good sound production.⁵⁴ This technique is an extension of a fundamental bowing exercise for violinists. Using a single bow direction to play a long note is demanding. If the weight of the bow and the pressure on the bow are either too much or too little, the quality of the sound will be impaired. Thus, good bowing technique demands ease of control through understanding of the movement of the arm by gravity and momentum.⁵⁵ A very good *sustaining a sound* exercise can be found in study No. 1 in *Etüden: Études – Studies*, by Rodolphe Kreutzer (1766-1831).⁵⁶ Contemporary Australian composer Sarah Hopkins uses *sustaining a sound* in *Reclaiming the Spirit* (1993) as illustrated in Figure 2.8. (See Figure 2.8.)

Figure 2.8 *Sustaining a sound* technique in *Reclaiming the Spirit*, bars 1 – 4, p. 3 by Sarah Hopkins

The musical score for Figure 2.8 consists of three staves: 'A' Clarinet, Violin/ Viola, and Cello. The 'A' Clarinet staff is in treble clef with a key signature of one flat and a 2/4 time signature. It features a dynamic marking of *f* and a note with a long horizontal line above it, indicating a sustained sound. The Violin/ Viola staff is also in treble clef with the same key signature and time signature. It features a dynamic marking of *mf* and a note with a long horizontal line above it. The Cello staff is in bass clef with the same key signature and time signature. It features a dynamic marking of *f* and a note with a long horizontal line above it. A vertical dashed line is drawn through the score at the end of bar 2. A text box on the right side of the Violin/ Viola staff says "Avoid bow changes on Clar rests". The Cello staff has some markings in parentheses: (m) and (V) in bar 1, and (V) in bar 4.

Figure 2.8 shows the sustained note d^1 extended over thirty-two bars with the metronome marking crotchet equals seventy-six (Andante).⁵⁷ The composer simply writes one long note in the violin/viola part, to be produced with continuous *mf* sound, changing the bow as necessary. (See Figure 2.8.)

⁵⁴ Patricia Strange and Allen Strange, "Sustained Bowing," in *The Contemporary Violin: Extended Performance Techniques* (Berkeley: University of California Press, 2001), 42.

⁵⁵ Peter Tanfield, note to the Author, 2005-2006.

⁵⁶ Rodolphe Kreutzer, *Etuden Études – Studies* (London: Edition Peters).

⁵⁷ Throughout this exegesis, the system being used for specifying the octave location of a pitch designates middle C " c^1 " (the c one octave above being c^2).

Another example of *sustaining a sound* is Hans Ulrich Lehmann's *Arco* (1972/73) for solo violin. (See Figure 2.9.)

Figure 2.9 *Sustaining a sound* in *Arco*, system 1, p. 27 by Hans Ulrich Lehmann

(langsam)
(slow)
extrem langsam streichen, fast ohne Druck
bow extremely slowly, almost without pressure

so lange wie möglich (min. 25''-30'')
as long as possible (at least 25''-30'')

Bogen auf die Saiten legen
place the bow on the string

pppp

Unregelmäßigkeiten im Stich (Stockungen, Unebenheiten) manchmal etwas hörbar werden lassen
bowing irregularities (flatterings, unevenness) should sometimes be somewhat audible

The requirements of playing *sustaining a sound* are greater than those needed for conventional playing. In the excerpt shown in Figure 2.9, *sustaining a sound* is made more complex by the composer's written instructions. As indicated on the score, the violinist should place the bow on the string before the start. The composer requires the lowest dynamic, *pppp*, extremely slow bow speed, and the sound should last for approximately thirty seconds' duration to produce this pattern. Performing *sustaining a sound* demands an acute awareness of the right hand – its position and its weight.

Hypo-pressure and hyper-pressure

Hypo-pressure and *hyper-pressure* are extended from conventional bowing techniques that affect sound production and bowing control. *Hypo-pressure* means bowing with light pressure, a technique of sound production now commonly used in contemporary compositions. It may be understood in two ways, either with no pitch being the main factor, or with microtonal effects being the main factor. The effects can range from airy to almost inaudible, which means there is almost no contact between bow and string. In some cases, the composer indicates that the pitch is not so important, simply using specific symbols to indicate the use of *hypo-pressure*. It is as if no rosin has been applied to the bow, which means that the hair is slippery and smooth. *Hypo-pressure* demands quicker

bow speed, less bow pressure and less bow hair. It can also be combined and executed with *sustaining a sound*, such as found in *De natura sonoris* No. 2 per Orchestra (1971) by Krzysztof Penderecki (b.1933). (See Figure 2.10.)

Figure 2.10 A combination of *hypo-pressure* and *sustaining a sound* in *De natura sonoris* No. 2 per Orchestra, system 2, p. 7 by Krzysztof Penderecki

The figure displays a musical score for violin parts. At the top, a staff labeled 'vn 1-22' features a sustained sound indicated by a thick black arrow. Above this staff, the text 'non vibr' and 'gliss' are written. Below the staff, the dynamic 'ppp' is marked. A bracketed section of the score shows fingerings for 22 players, with numbers 1-4, 5-6, 7-8, 9-10, 11-12, 13-14, 15-16, 17-18, 19-20, and 21-22. Below this, two staves for 'vl' (violin) are shown. The first staff has a thick black arrow labeled 's.p.' and 'gliss', with the dynamic 'pp' below it. The second staff is labeled 'vb 1-6' and has a dynamic 'p' below it. At the bottom, a horizontal line is labeled '128''.

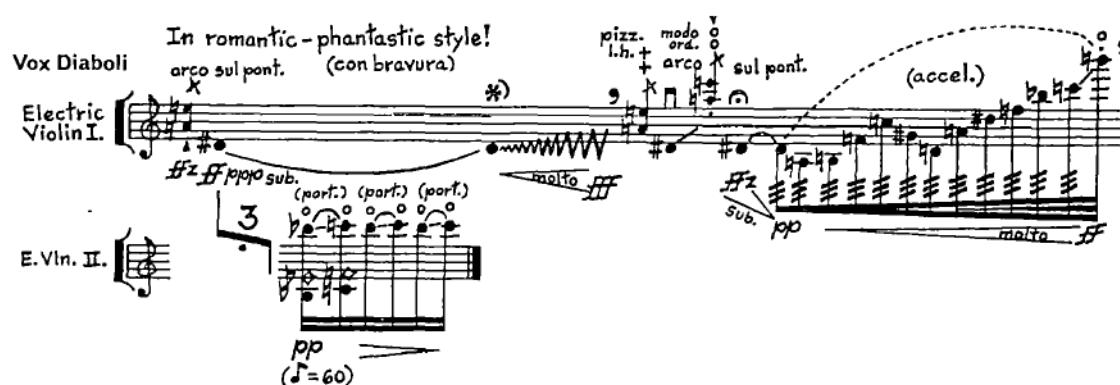
The composer requires twenty-two first violin players to perform different notes without *vibrato* and to slide the finger gradually towards to the bridge direction. Bow changes are acceptable but should be inaudible.

Hyper-pressure refers to extreme bow pressure, producing a harsh, forced sound without overtones and with a considerable amount of extraneous noise, a sound often associated with beginners, who produce it inadvertently. In some instances composers demand a precise pitch but with a harsh forced sound. In other instances composers want simply an ugly noise. The sound itself might be perceived as unpleasant, off-putting and uncomfortable for the listener. *Hyper-pressure* has appeared in many scores since the middle of the nineteen-seventies.⁵⁸ It has also become one of the more readily accepted

⁵⁸ Patricia Strange and Allen Strange, *The Contemporary Violin Extended Performance Techniques*

techniques in contemporary string music. George Crumb's *Black Angels: Thirteen Images from the Dark Land*: Image 4: "Devil-Music", is a good example of utilising *hyper-pressure* in the music. (See Figure 2.11.)

Figure 2.11 *Hyper-pressure effect and notation in Black Angels: Thirteen Images from the Dark Land: Image 4: "Devil-Music", system 1, p. 3 by George Crumb*



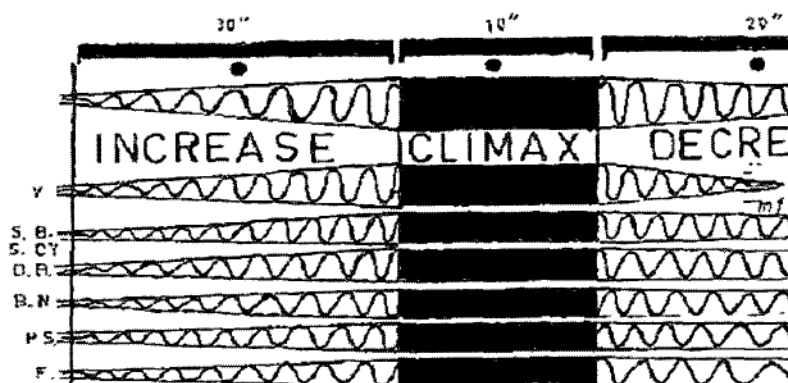
In Figure 2.11, the composer uses a zigzag line, with peaks and troughs gradually growing larger to indicate the gradual increase of *hyper-pressure*. With a pointed wave of increasing amplitude Crumb instructs the performer to start a note very gently and then add more bow pressure little by little until the sound becomes simply noise. The asterisk provided by Crumb in this same piece refers players to a footnote that provides further instructions for execution of *hyper-pressure* sound. When more and more pressure is demanded, the part of the bow to be used is the lower half or the part close to the frog. Frequent changes of bow direction are therefore necessary.⁵⁹

In the *Four Likes for Solo Violin* (1972-3) as shown in Figure 2.12, the composer uses different symbols to indicate *hyper-pressure*; wavy black lines inside crescendo signs to indicate increasing volume of sound. (See Figure 2.12.)

(Berkeley: University of California Press, 2001), 17.

⁵⁹ Ibid., 19.

Figure 2.12 *Hyper-pressure bowing technique and notation in Four Likes for Solo Violin, mvt. IV, system 3 by Theodore Antoniou*



The composer's instruction to the player implies very little pressure at the beginning of the crescendo, gradually increasing until CLIMAX, implying extremely heavy pressure on the bow, and then decreasing pressure to the end of decrescendo. The sound in the CLIMAX section will be ugly, scratchy and harsh. After reaching the climax, pressure and volume should be reduced steadily.

Bow getting stuck

The *bow getting stuck* technique is an exaggeration of the *hyper-pressure* bowing. The violinist is required to place the bow on the string with great pressure of tone until the bow almost stops on the string. As shown in Figure 2.13, the composer uses $\boxed{\text{R}}$ to indicate the maximum bow pressure and the arrow to the right indicates (\rightarrow) that the bow has to move to the tip followed by the *diminuendo molto lento* at the end of the phrase. (See Figure 2.13.)

Figure 2.13 *Bow getting stuck (\rightarrow) in Arco, system 2, p. 27 by Hans Ulrich Lehmann*



The tone production of *bow getting stuck* should be completely crushed, as the composer indicates on the score. This bowing technique needs maximum contact between hair and the string as well as total bow control.

Tremolo

Tremolo is not a new technique, but it is one of the most widely used techniques in twentieth-century violin music. It is a repeated very short, fast and unaccented *détaché* bow stroke, for the duration of the note.⁶⁰ The result is a “trembling” sound.⁶¹ The part of the bow used and the amount of pressure applied to the bow depend on the dynamic requirement. If the dynamic is loud, the bow placement is between the bow tip and the upper half; if the dynamic is soft, the bow placement is near the bow tip.⁶² If the composer wants a loud *tremolo* it is necessary to use the middle of the bow, and to press heavily. (See Figure 2.14.)

Figure 2.14 *Tremolo in Arco*, system 3, p. 27 by Hans Ulrich Lehmann

In Figure 2.14, the notation of *tremolo* commonly used in the twentieth-century is three slanted short diagonal lines juxtaposed above or below the pitch, without a stem or on the stem. (See Appendix J for a performance of this piece featuring *tremolo*.) (See Figure 2.14.)

⁶⁰ Joel Berman, Barbara G. Jackson and Kenneth Sarch, “Pizzicato Tremolo,” in *Dictionary of Bowing and Pizzicato Terms*, 4th ed. (Bloomington: American String Teachers Association, 1999), 55-57.

⁶¹ Ibid.

⁶² Ibid.

Left Hand Techniques

Senza vibrato and *vibrato*

Senza vibrato and *vibrato* now commonly appear as a pattern or even within a phrase in many contemporary compositions. Successful articulation depends on the adaptability of the performer's left hand. *Vibrato* is generally used to embellish the colour of the sound or increase musical tension. By contrast, *senza vibrato* is used to deliver the sound in its unadorned naturalness – sometimes referred to as “notes blanch” or “white notes”.⁶³ *Senza vibrato* might challenge some violinists, *vibrato* having become a compulsive finger movement almost a reflex and thus endemic finger movement in generic modern playing. (See Figure 2.15.)

Figure 2.15 *Senza vibrato* and *vibrato* patterns in *Like Icarus Ascending*, mvt. I, system 1, p. 114 by Andrew Ford



As shown in Figure 2.15, the composer utilises *senza vibrato* and *vibrato* to change the sound and so the mood of the music. The performer has to keep the finger movement calm and slide the finger on the string smoothly. The performer should only introduce *vibrato* into the music gradually, stopping as indicated in the score. The application of *vibrato* should be light and sparing. (See Appendix J for a performance of this piece featuring *Senza vibrato* and *vibrato* patterns.) (See Figure 2.15.)

The scope of *vibrato* has also been extended and exaggerated to diversify sound production drawing on influences from vocal and non-Western instrument music. This type of

⁶³ Peter Tanfield, note to the author, 2005-2006.

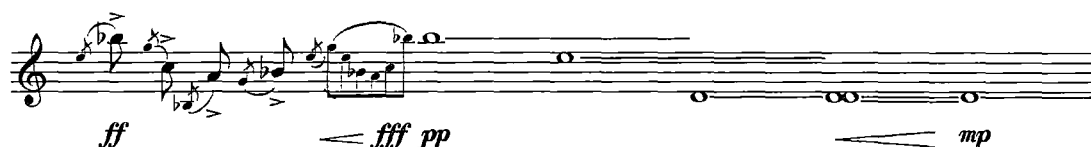
vibrato, imitating some styles of non-Western music can be wobbly and unsteady, sometimes creating *microtones*.⁶⁴ The violinist can increase or decrease the oscillation, widen the amplitude or even apply the larger movement of the elbow joint to flatten the finger and so change the sonority. (See Figure 3.4.1.⁶⁵)

A technique which involves both hands at the same time

Delayed resonance

Delayed resonance is not a newly developed technique but it has been to some degree reinvented by modern composers. Contemporary music's notation for the manner of executing *delayed resonance* implies that notes are held for longer than the printed note value. In some instances the composer notates the length of each note and the order of notes, therefore notation is determined, but musical interpretation is indeterminate. In other instances, the composer indicates the timing of the phrase or the pattern but not the exact length of each note. The performer can decide the length of each note, and may play the first note as written and the next note at any time thereafter. As long as the next note is produced, timing is irrelevant and the two notes may sound simultaneously. This may be described as *delayed resonance* in contemporary music. In conventional music, *double stops* are two pitches notated vertically, strictly notated as to where they start and stop. (See Figure 2.16.)

Figure 2.16 *Delayed resonance* in *Like Icarus Ascending*, mvt. I, system 6, p. 114 by Andrew Ford



⁶⁴ *Microtone* means the interval is smaller than a minor second.

⁶⁵ A discussion of this playing technique will be described in Chapter Three (3.4 Clarence Mak, *Image for Solo Violin*).

Figure 2.16 shows the notation of *delayed resonance*, which the composer indicates by using a long solid horizontal line next to the note. The length of the line indicates the length of the note, the composer leaving it up to the performer, in collaboration with the composer, to decide how long to sustain each note. (See Figure 2.16.)

Category 2: Environmental manipulation of conventional playing techniques

Environmental manipulation of conventional playing techniques is the alteration of the surroundings and/or the ambience by spatial and/or technological manipulation. The innovation in performance is in the manipulation of the sound by technological and/or spatial means and the combination of electronically enhanced and conventional sounds requiring interactivity with technology, in addition to the accepted demands of conventional playing.⁶⁶

The use of non-conventional spaces as performance venues has also required specific technological solutions and understanding of how to play under unaccustomed spatial conditions.

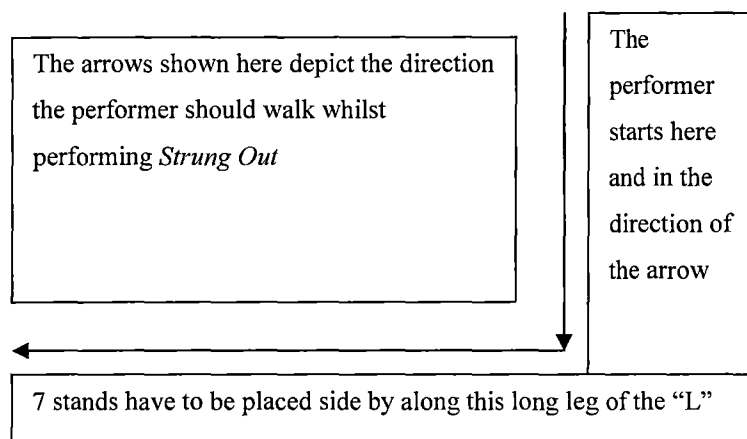
A recent spatial and technological demand is the extension of location and circumstance, experimental music offering more possibility and variety for present performance. The location for performing is not confined to the traditional concert hall but may be any venue accessible by the audience. New technology has also had momentous impact on the search for new sounds from the violin. Composers do their utmost to discover unusual timbre and acoustic qualities by using different methods of technology.

Minimalist composers are notable for their endeavour to explore all performance possibilities. This was a frequent occurrence in minimalist composers' concerts such as

⁶⁶ The definition is given by the performance supervisor, Peter Tanfield, Lecturer in Violin, Conservatorium of Music, the University of Tasmania, 2004-2006.

Steve Reich's *Violin Phase* (1967)⁶⁷ and Philip Glass's *Strung Out* (1967). For instance, *Violin Phase* requires the violinist to record a three-track tape loop following Reich's instruction. The only assistance required is for someone else to play the tape during the performance.⁶⁸ Those performance techniques are based on conventional playing techniques but the performance venue can be anywhere from a recital hall to museum or gallery. The demonstration of this tactic in this chapter is Philip Glass's *Strung Out*⁶⁹ which was composed in 1967 for amplified violin. The première performance of *Strung Out* was given in November of 1968 in the little Film Makers Cinemateque in New York by the violinist Dorothy Pixley-Rothschild.⁷⁰ In this performance, the music was printed in an "accordion fold" style so that, when opened out, it formed some twenty continuous pages strung together. It was set up on a series of music stands making an "L" shape on the stage. (See Figure 2.17.)

Figure 2.17 "L" shape for performing *Strung Out* on the stage



⁶⁷ Steve Reich, "Direction for Performance," in *Violin Phase* (London: Universal Edition, 1979).

⁶⁸ *Violin Phase* was composed in 1967 and performed in the same year by Reich and other musicians in New York's Fall Gallery. A source is from *The New Grove Dictionary of Music and Musicians* by Paul Griffiths.

⁶⁹ Philip Glass, *Strung Out* (New York: Dunvagen Music Publishers, Inc).

⁷⁰ Untitled "Philip Glass, List of Compositions 1965 - 1975" [year 1967 *Strung Out*] [Internet on-line]; available from

<http://216.239.37.104/translate_c?hl=en&u=http://www.arconet.es/users/rosado/philipg.htm&prev=/search%3Fq%3D%2522strung%2Bout...> [28 August 2004].

In the performance procedure displayed in Figure 2.17, the violinist begins playing on the short leg of the “L”, walks down to the corner and then on to the long leg, taking, in all, about twenty-one minutes. The title of *Strung Out* has three meanings: “1) the music was strung out along the wall; 2) it has to do with the idea of stringing a violin; 3) it played on the contemporaneous colloquialism of being strung out, which has been described as ‘being at the end of one’s tether, or being dragged to the very edge of something’.”⁷¹

The whole score is twenty-four A4 size pages long after three repeats, and these pages should thread together in accordion-fold fashion so that when unfolded they can be set up in a seemingly extended (or strung out) geometrical construction, echoing the title “*Strung Out*”.⁷² With the music tacked to the wall or placed on ten stands (three making up the short leg of the “L” and seven making up the long leg of the “L”), the violinist should travel across about eight pages before taking a right turn out from the wall to an “L” shape on the stage. (See Figure 2.17.)

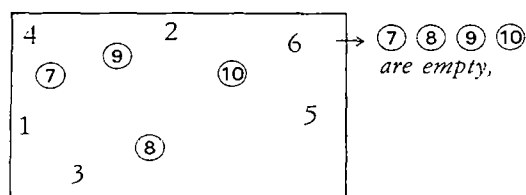
Luigi Nono’s *La Lontananza Nostalgica Utopica Futura: madrigale per più “caminantes” con Gidon Kremer violino solo 8 nastri magnetici da 9 a 10 leggi Versione KOE 232* (1988/89)⁷³ continues this type of musical innovation. The performance place has included the audience seats and the performer has to play and move randomly anywhere. (See Figure 2.18.)

⁷¹ Robert T. Jones, *Discography: Music in the Shape of a Square* (2001) [Internet on-line]; available from <<http://www.philipglass.com/alterego.html>> [6 September 2004].

⁷² Untitled “Philip Glass, List of Compositions 1965 - 1975” [year 1967 *Strung Out*] [Internet on-line]; available from <http://216.239.37.104/translate_c?hl=en&u=http://www.arconet.es/users/rosado/philipg.htm&prev=/search%3Fq%3D%2522strung%2Bout...> [28 August 2004].

⁷³ Luigi Nono, *La Lontananza Nostalgica Utopica Futura. madrigale per più “caminantes” con Gidon Kremer violino solo 8 nastri magnetici da 9 a 10 leggi Versione KOE 232* (Minalo: G. Ricordi & Editori, 1988). The nostalgic removed distance of the utopian future: madrigal for more “ambulants” with Gidon Kremer violin solo 8 magnetic tape from 9 to 10 stands. The title is translated by Peter Tanfield, Lecturer in Violin, Conservatorium of Music, the University of Tasmania.

Figure 2.18 Stands and the stage set up in *La Lontananza Nostalgica Utopica Futura: madrigale per più "caminantes" con Gidon Kremer violino solo 8 nastri magnetici da 9 a 10 leggi* Versione KOE 232 (1988/89) by Luigi Nono



In Figure 2.18, the composer indicates the six parts (1,2,3,4,5,6) of “*La Lontananza*” should be placed on six music stands on the stage (and in the audience as well), irregularly and asymmetrically, never near each other, but in such a way as to permit free, although never direct, passage between them, the players searching them out. They can also be “complicated” with 2 or 4 empty music stands in order to make the passage way more varied and imaginative, the players even suddenly getting lost or coming to a halt. The sixth stand should be placed near the stage exit, as indicated in stand no. 6. (See Figure 2.18.)

Amplification

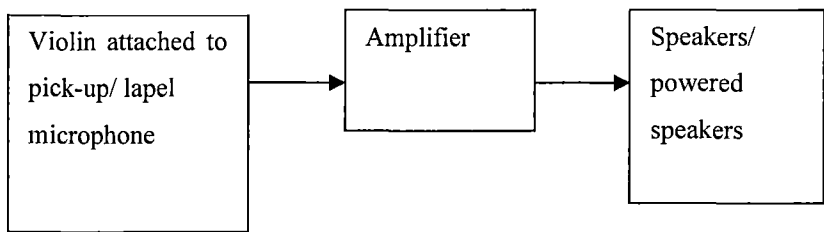
Amplification in music has been in use for many years. Acceptance of amplification of the violin was slow, but it is a dominant feature in *Black Angels: Thirteen Images from the Dark Land* by George Crumb (b.1929),⁷⁴ composed in 1970. Amplifiers and pickups, being two of the major devices, have since been applied repeatedly to the violin. Now, the application of amplification has been used by many composers to broaden the capabilities of the violin. Outdoor venues can be utilised more effectively and previously unperformable nuances and musical textures, which otherwise could not be heard, can be used with amplification as in Helmut Lachenmann’s 1986 composition of *Toccatina*.⁷⁵

⁷⁴ George Crumb, *Black Angels: Thirteen Images from the Dark Land* (New York: C. F. Peters, 1971).

⁷⁵ Helmut Lachenmann, *Toccatina* (Wiesbaden: Breitkopf & Härtel, 1986).

The manner of execution, such as an extension of *col legno battuto* and *col legno tratto* techniques (see Figure 2.22), and the type of the sound produced will be almost inaudible. Therefore, the performer might apply basic amplification to deliver the sound to the audience using a lapel microphone or bridge pick-up microphone. (See Figure 2.19.)

Figure 2.19 A basic system of amplification applied to the violin



Amplification herein is defined as a physically unmodified violin using either pickup or microphone to send a signal through an amplifier to speakers. Amplification does not require any change in the manner of performance, excepting the necessity for a good understanding as to how to get the best from the instrument under amplification. A basic system of electro-acoustic amplification, as shown in Figure 2.19, can be used to produce good acoustic sound and will not drastically alter the original sound of the violin. The purpose of a pickup is to take the sound and to convert it into an electrical signal; an amplifier increases that electronic signal which then gets converted into sound by the speakers. Metallic strings or strings with metal components can be used by the performer in order to produce good quality electro-acoustic sound.⁷⁶ These strings help to maintain a steady electromagnetic spectrum which will reduce the frequency problem which is caused by the vibration of the violin.

⁷⁶ Christian Wojtowicz, note to the author, 2004-2005.

Category 3: Non-conventional playing techniques

While recognising that neither right nor left hand technique can be considered in isolation, for the purpose of clarity non-conventional playing techniques will be divided into three categories; those required to be mastered by the right hand; and those which demand concentration on the left hand; and those are specified by unusual performance techniques. (See Table 2.3.)

Table 2.3 Table showing techniques applied to right hand and left hand

Right/left Hand techniques	Technique
Right hand	<i>Pizzicato tremolo</i> <i>Nail pizzicato</i> Using the screw of the bow
Left hand	<i>Finger percussive sound</i> <i>Non-Western instrumental sound</i> <i>Finger damping</i> <i>Microtones</i>
Unusual performance techniques	Playing different and unusual parts of the violin <i>Whistle and tap dancing</i>

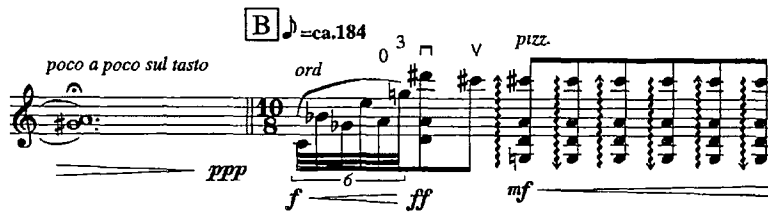
Right Hand Techniques

Pizzicato tremolo

Pizzicato tremolo is used to imitate another type of non-Western instrumental sound such as plucked or bamboo-based instrument. *Pizzicato tremolo* is a rapid strumming of chords played on stringed instruments plucking string(s) back and forth horizontally using the right hand index finger or the thumb. There are three ways to indicate *pizzicato tremolo*: 1) a *tremolo*-line sign on the note stem; 2) written out in short durations notated usually with downward (↓) or upward arrows (↑); or 3) a vertical wavy line with a downward or upward arrow at the bottom or the top, respectively.⁷⁷ (See Figure 2.20.)

⁷⁷ Joel Berman, Barbara G. Jackson and Kenneth Sarch, “Pizzicato Tremolo,” in *Dictionary of Bowing and*

Figure 2.20 *Pizzicato tremolo* in *Ashes of the Glacial Crescent for Amplified Violin*, p. 53, [B] by Hing-Yan Chan



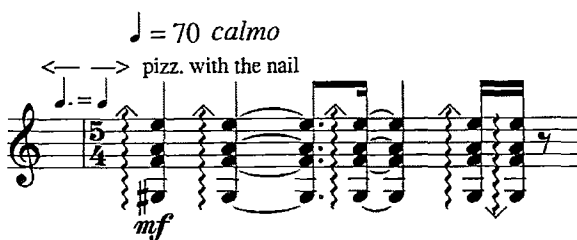
In Figure 2.20, the composer indicates the direction of *pizzicato tremolo*, tempo ♩ = ca. 184, followed by the crescendo. In non-Western music, this technique is a typical finger rotation procedure of the Chinese plucked instruments, the *pipa* and *zheng*. The performer therefore has to transfer the effect of the finger rotation technique of the *pipa* and *zheng* on to the violin. A way to successfully execute this is to slide the right hand index finger from left to right across the strings and to slide the finger back with the fingernail facing left. The hand movement has to be as swift as possible. (See Figure 2.20.)

Nail pizzicato

Nail pizzicato involves plucking the string and allowing the edge of the fingernail of the right hand to catch the string. A hard, biting and metallic sound will result.⁷⁸ The violinist may pluck the string with more weight in order to produce an audible buzzing sound.

Hence, *nail pizzicato* is also known as “*buzz pizzicato*”.⁷⁹ (See Figure 2.21.)

Figure 2.21 *Nail pizzicato* in *Vex* for Susan Pierotti, bar 83, p. 127 by Peter J. Myers



Pizzicato Terms, 4th ed. (Bloomington: American String Teachers Association, 1999), 65.

⁷⁸ Kenneth Sarch, ed., “Nail Pizzicato,” in *Dictionary of Bowing and Pizzicato Terms: Petite Dictionary of Pizzicato*, 4th ed., ed. by Joel Berman, Barbara G. Jackson and Kenneth Sarch (Bloomington, Indiana: American String Teachers Association, 1999), 63.

⁷⁹ *Ibid.*, 61.

In Figure 2.21, the notation of *nail pizzicato* is a vertical squiggle with an arrow to indicate the direction of each *nail pizzicato*. The violinist should pluck the string in the conventional manner and then allow the fingernail to touch the vibrating string without lifting away from the string. (See Figure 2.21.)

Using the screw of the bow to rub or hit the string could be seen to be a further extension of *col legno tratto* and *col legno battuto*. This is sometimes also combined with other techniques.⁸⁰ The volume of these two tone productions is very low and is audible only if using with amplification. This innovation by Helmut Lachenmann can be seen in *Toccatina* (1986) for solo violin.⁸¹ (See Figure 2.22.)

Figure 2.22 An extension of *col legno battuto* and *col legno tratto* in *Toccatina*, system 1, p. 32 by Helmut Lachenmann

Figure 2.22 shows a musical score for a solo violin. The top staff is marked "2 Oktaven höher" (2 octaves higher) and "2 octaves higher" with a "6" time signature and a tempo of "ca. 56". It contains notes with "mit Spannschraube getupft" (dapped with the screw of the bow) and "sul I" markings. The bottom staff is marked "loco" and contains notes with "distinto" and "fluido" markings. Both staves have "ten." (tension) markings. The bottom staff also has "pizz." (pizzicato) and "p" (piano) markings. A legend at the top right indicates "Vibrato mit Spannschraube" (vibrato with the screw of the bow).

The first bar is an extension of *col legno battuto*. The violinist only uses the screw of the bow to hit the strings at the harmonic sounding points. In other words, the performer has to use the screw of the bow to rub the string instead of using the bow hair to make the sound. The second bar is an extension of *col legno tratto* - as the composer has indicated *fluido* (flowing or smooth). To achieve this effect, the screw of the bow should be placed on the string and allowed to slide back and forth on the string to imitate the *vibrato* sound.

⁸⁰ Patricia Strange and Allen Strange, *The Contemporary Violin: Extended Performance Techniques* (Berkeley: University of California Press, 2001), 39.

⁸¹ *Ibid.*, 39.

Left Hand Techniques

Finger percussive sound

Finger percussive sound technique is another new technical device. It requires the violinist to use the left hand fingers to strike the strings, producing another different type of percussive sound. The symbol is not standardised yet and different composers use various symbols. Figure 2.23 is an example of notation for *finger percussive sound*, for which Gérard Gastinel uses a “+”. The performer should lift the left hand finger vertically to slap the string onto the fingerboard with the fingertip. (See Figure 2.23.)

Figure 2.23 *Finger percussive sound* in *Heptade: pour violon et piano*, mvt. V, system 1, p. 43 by Gérard Gastinel

Rapide
+ = percussion des doigts (M G)
sans archet
1 4 3 2
+ + + + + + + piz. arco V
le plus sonore possible p long

The image shows a musical score for a violin and piano. The violin part is written on a single staff with a treble clef. It begins with a series of eighth notes, followed by a series of '+' symbols indicating finger percussive sounds. Above the staff, there are instructions: 'Rapide', '+ = percussion des doigts (M G)', 'sans archet', and a fingering sequence '1 4 3 2'. Below the staff, there is a note 'le plus sonore possible'. The piano part is written on two staves (treble and bass clefs). It includes a section marked 'arco' and 'long' with a 'V' symbol, and another section marked 'pp'. There are also some symbols like 'mf' and 'Srb' with a diamond shape.

Non-Western instrumental sound

The interpretation of *non-Western instrumental sound* is somewhat more like pitch-bending (*microtone*) or wide, slow *vibrato* on Western instruments.⁸² In particular, the use of wide *vibrato* is intended to imitate the sound of non-Western instruments such as the *erhu* (stringed)⁸³ and *di* (woodwind), both traditional Chinese instruments. Some

⁸² Peter Tanfield, note to the author, 2004-2005.

⁸³ *Erhu* is the principal melodic instrument in Peking Opera where it plays along with the singer, ornamenting and elaborating the vocal line.

composers, for example, Larry Sitsky (b.1934)⁸⁴, are influenced by elements of Asian culture such as Peking and Cantonese opera and frontier folk songs. Sitsky employs Chinese mythology and uses traditional Chinese instruments in his Concerto No. 3 for Violin and Orchestra: *I-Ching: The Eight Trigrams*⁸⁵ (1987).⁸⁶

Finger damping/ finger muting

Finger damping (using the finger(s) as a damper) is a recent creation of contemporary musical notation. The left hand should be placed on the indicated finger positions without any pressure, which allows natural overtones to sound when the violinist taps the strings with the screw of the bow. One example of a symbol used for finger damping is found in *Toccata* (1986), in which Helmut Lachenmann provides a “⊕” to indicate *finger damping*. (See Figure 2.24.)

Figure 2.24 *Finger damping notation in Toccata, system 1, p. 32 by Helmut Lachenmann*



The use of this symbol means the performer has to place four fingers on four different strings as indicated. This will stop the vibration of the strings; therefore, the sound will be very faint and light. (See Figure 2.24.)

Microtone

Microtone means any interval smaller than a minor second. A *microtone* is not a part of conventional music but, rather, an extension of conventional technique developed in late

⁸⁴ Larry Sitsky (b.1934), Australian composer, pianist, researcher and educator.

⁸⁵ Eight trigrams include water, wind, mountain, thunder, mist, heaven, fire, and earth. Sitsky applies huge amount of percussion instruments such as metal wind chimes, bamboo wind chimes, gongs, sleigh bells.

⁸⁶ Robyn Holmes, Patricia Shaw, and Peter Campbell, *Larry Sitsky: A Bio-Bibliography* (Westport: Greenwood Press, 1997), 60-61.

twentieth-century music.⁸⁷ While we might assume that *microtones* are a very recent discovery, they actually were used in the music of ancient Greece and were mathematically defined by the theories of that time.⁸⁸ In recent times, *microtones*, like the diatonic modes, were rediscovered in the twentieth-century by composers who have used them in new and varied ways. The notation of *microtones* is different from conventional notation. It is not strictly standardised and varies from composer to composer. Different composers create their own symbols. For example, Xenakis indicates *microtones* at the beginning of *Mikka*. (See Figure 2.25.)

Figure 2.25 *Microtone notation in Mikka, system 1, p. 1 by Iannis Xenakis*



Generally speaking, *microtones* have three equal divisions: 1) one-quarter of a tone higher than the natural note such as $\sharp^{\dagger 89}$ or $\sharp^{\ddagger 90}$ or \sharp^{\dagger} or \sharp^{\ddagger} or $\sharp^{\dagger\ddagger}$; 2) three-quarters of a tone higher than the natural note such as $\sharp^{\sharp 91}$; and 3) one-quarter of a tone lower than the natural note such as $\flat^{\dagger 92}$

⁸⁷ Stefan Kostka, *Materials and Techniques of Twentieth-Century Music* (New Jersey: Prentice Hall, 1999), 35.

⁸⁸ Ibid.

⁸⁹ Example of quarter tone symbol from *Mikka* by Iannis Xenakis.

⁹⁰ Example of quarter tone symbol from *Kaar* by Richard David Hames.

⁹¹ Example of quarter tone symbol from *Mikka* by Iannis Xenakis.

⁹² Example of quarter tone symbol from *Trois Élégies pour violon seul* by Yves-Marie Pasquet.

The execution of *microtones* requires sensitivity of the left hand finger movements and sensible fingering organisation combined with acute aural perception.⁹³ The performer should be aware of every finger movement, feel the small but palpable difference between the usual sensations for tones and semitones and make the specific adjustments necessary for producing *microtones*.⁹⁴ Left hand fingerings must be calculated carefully. (See Figure 2.26.)

Figure 2.26 *Microtone in Arco*, system 16, p. 30 by Hans Ulrich Lehmann



Figure 2.26 is a long slur of *microtones* in a pattern combined with up bow staccato bowing. The difference between *Mikka* (see Figure 2.25) and *Arco* (see Figure 2.26) is that Xenakis uses slurs to indicate *glissando* and Lehmann uses slurs to indicate a pattern. The performer needs to experiment to decide a system of fingering rather than to leave it to chance. For the microtonal pattern shown in Figure 2.25, from the beginning to the *sfp*, the performer may attempt the fingering: 2-2-3-4-3-4-3-2-2-3-2 to distinguish between each microtonal pitch. The performer can apply a similar method to subsequent patterns. In addition, the composer employs ☐ above the note to indicate that an accent should be added occasionally. (See Figure 2.26.)

Xenakis's *Mikka* is one of the more extreme examples of complexity of finger movement combined with sophisticated bowing technique in solo violin music.⁹⁵ (See Figures 2.27

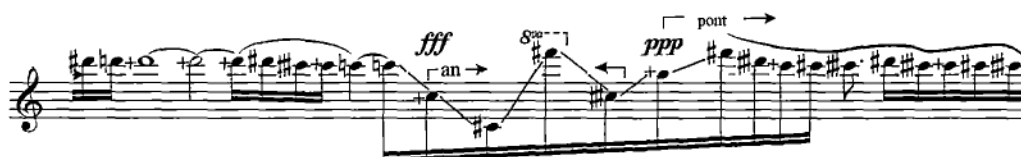
⁹³ Peter Tanfield, note to the author, 2005-2006.

⁹⁴ Ibid.

⁹⁵ Peter Hoffmann, "Iannis Xenakis," in *The Grove Dictionary of Music and Musicians*, 2001 ed., 605-613.

and 2.28.) Complex left hand finger movement is a significant challenge for the performer and this is followed by the *glissando* and *sul ponticello* techniques. In Figure 2.27, Xenakis indicates the direction of each note, followed by *glissando*, and the sound is varied by the *sul ponticello* bowing technique. (See Figure 2.27.)

Figure 2.27 Complex *glissando* with *sul ponticello* in *Mikka*, system 8, p. 1 by Iannis Xenakis



In Figure 2.27, Xenakis indicated “8^{va}” above the f^{#2}, which means that is the end of the octave higher section and the actual pitch of the following notes should be played as printed. Between c⁺² and f^{#2}, the performer has to play these four notes on the string (arco normal), to slide the finger across four strings. The performer has to shift the finger swiftly on the E string while performing c⁺². After this motion, the performer has to slide the finger back to the A string in order to play the next note three-quarters of a tone higher than c². The dynamic requirement of these four notes is *fff*. As soon as this last pitch is produced, the performer has to shift to a quarter of a tone higher than a². Above the pitch of a⁺², Xenakis also indicates *sul ponticello* bowing and the contrast dynamic marking *ppp* that should be introduced into the sound production.

Figure 2.28 Complex finger position variation in *Mikka*, system 1, p. 3 by Iannis Xenakis



In Figure 2.28, Xenakis indicates the direction of *glissando* followed by the complicated finger position change. “2.8” means to play two octaves higher. The performer has to change the finger positions smoothly. (See Figure 2.28.)

Unusual performance techniques

Knocking the chin-rest with the screw of the bow on different points of the chin-rest to produce a percussive sound is another creative means of producing sound. (See Figure 2.29.) The composer used a cross sign “×” to indicate this playing technique.

Figure 2.29 Chin-rest *percussive sound* in *Sonate-Monolog for Solo Violin*, bars 105 – 110, p. 6 by Aram Khachaturian

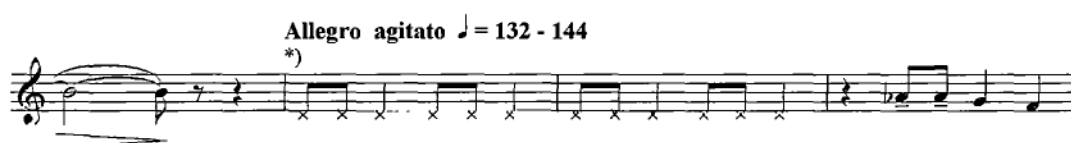
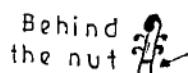


Figure 2.30 Playing behind the nut in *Four Likes for Solo Violin*, mvt. IV, system 1 by Theodore Antoniou



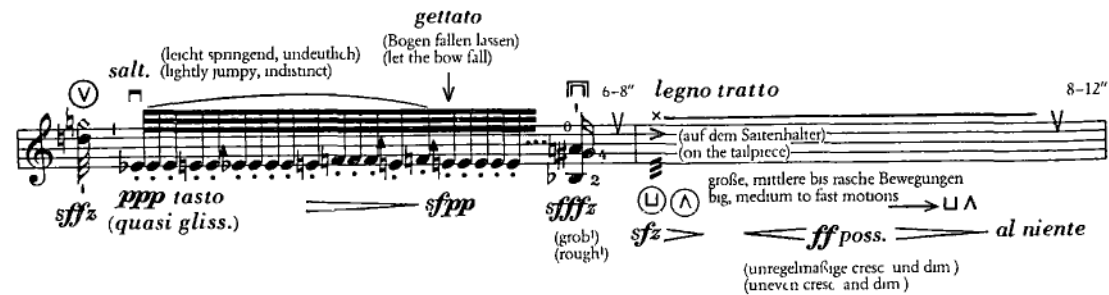
In Figure 2.30, the composer draws a symbol of a violin scroll and pegs and indicates the performer to play behind the nut, again with an almost inaudible resultant sound.

Playing behind the bridge is another way to use *hyper-pressure* of the bow as shown in Figure 2.31. The violinist can also play on the scroll of the violin, which simply produces a little scratch sound and is toneless and almost inaudible. (See Figure 2.31.)

Figure 2.31 Playing behind the bridge in *Image for solo Violin*, system 1 , p. 50 by Clarence Mak



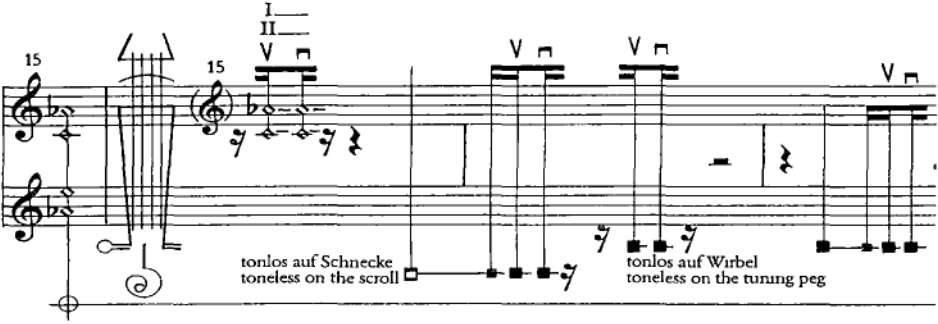
Figure 2.32 Playing *tremolo* on the tail piece in *Arco*, system 8, p. 28 by Hans Ulrich Lehmann



In the second bar of Figure 2.32, Lehmann indicates the performer has to play *tremolo* on the tail piece. The effect is an extension of *col legno tratto* playing technique, which is used to contrast the colour of the tone production. (See Figure 3.32.)

Obviously using the below techniques has the potential to damage a valuable violin. The performer has to find a way to execute the composer's instruction without damaging the instrument. Figure 2.33 is an example of this. (See Figure 2.33.)

Figure 2.33 The representation of the fingerboard indicates the performer should play on the scroll in *Toccatina*, system 2, p. 35 by Helmut Lachenmann



In Figure 2.33, Lachenmann provides a representation of a fingerboard to notate this technique and explains the expectation of the quality of the sound. As well, the performer can play behind the nut, that is, in the peg-box, to produce a different type of sound.

Whistle and tap dancing

The incorporation of non-instrumental performance requirements, including vocalisation and dance, are other creative compositional requirements that open up a completely new world of sound, approach to performance and technique for performer and audience.

Huber's *aus: Solo für einen Solisten* from *Solo for a Soloist* (1980/81) requires the violinist sometimes to whistle (Figure 2.34) and sometimes to tap while playing (Figure 2.35).

Figure 2.34 Whistle and pizzicato in *aus: Solo für einen Solisten* (from: *Solo for a Soloist*), bars 1 – 2, p. 36 by Nicolaus A. Huber



As shown in Figure 2.34, in the first two bars of Genre I (“Kalinka”), the upper stave shows the whistling pitches, which should be heard one octave higher than notated and the lower stave shows notes which have to be plucked on the violin as if playing the guitar.

Figure 2.35 Tap dancing in *aus: Solo für einen Solisten* (from: *Solo for a Soloist*), bars 3 – 4, p. 36 by Nicolaus A. Huber. by Nicolaus A. Huber

As shown in Figure 2.35, the beginning of Genre II („Steppen“) (“Tap-dance”) requires the performer to do *tap dancing* and playing *pizzicato* together. Thus the performer has to

wear shoes with leather soles and hard leather heels and performed on a good resonant wooden floor, as in *tap dancing*. According to the instructions for Genre II, the performer should consider the metronomic values only as orientation aids. What is intended is a hesitant beginning with uninterrupted *accelerando* and *crescendo* from $\text{♩} = 88$ to $\text{♩} = 112$. In the lower stave, the composer employs a cross (X) to indicate which string should be tapped by the fingers, resulting in a castanets-like sound. (See Figure 2.35.)

In Figure 2.35, after the *pizzicato* chord, the performer has to reduce the finger pressure on the strings and slide the fingers down, to end with the tap. This may be regarded as a type of *finger percussive sound*. (See Figure 2.23.) While the hands are playing according to the notation on the lower staff, on the upper staff the composer uses “R” and “L” to indicate which foot to tap. The rhythm of the tapping is determined by the length and the position of notes on the stave. For example, the g^2 minim intended for the right foot and the e^2 crotchet is for the left foot, and so on. (See Figure 2.35.)

This chapter has provided an outline of the diversification of the technical development of violin performance between 1960 and 2006. The following chapter will discuss four complete pieces and the uses made of the above-mentioned techniques. Discussions will include explanations of the symbols employed and instructions and suggestions for preparation for performance. The audio illustration clips can be viewed on the website. (See Appendix J.)

Chapter Three

Performance Discussion

The advent of audio-visual technology has enhanced the potential of violin performance. With audio-visual cues contemporary violin practices are now more accessible and arguably more precise. Contemporary performers can watch a mediated master class, contact the composer, and both see and hear violin technique in detail. Berio's electronic evolution has added a computerised dimension to violin playing, while Cage's indeterminate movement has allowed musicians freedom to influence the composition as performance to an extent that had not previously acceptable.

This chapter will focus on four works of contemporary solo violin music by innovative composers. These four works are: *Sequenza VIII per Violino Solo* (1976) by Luciano Berio (1925-2003); *Arch Canon for Three Violins* (1992) by Robert Davidson (b.1965); *Prakour for Solo Amplified Violin and Delay* (1994) by Damien Ricketson (b.1973); and *Image for Solo Violin* (1999) by Clarence Mak. The discussion will include première performance information and any explanations provided by the composer. Each piece explores different compositional features and contains specific performance instructions to the player thus providing a variety of challenges to the performer, and new audio experiences for the audience.

3.1 Luciano Berio (1925-2003), *Sequenza VIII per Violino Solo* (1976)

*Ho moltiplicato per te le mie voci, I miei vocaboli,
le mie vocali e grido, adesso, che sei il mio vocative.*⁹⁶

Luciano Berio, one of his generation's finest composers, occupied an important place in the exploration of virtuosic performance.⁹⁷ As a pioneer of experimental music, Berio expanded upon traditional compositional methods to explore a broader and more freely imaginative use of instruments.⁹⁸

Berio worked for a period of over forty-four years, from 1958 to 2002, on a cycle of fourteen solo pieces for different instruments. All numbered solo compositions are under the title *Sequenzas*. (See Appendix N.) The first work *Sequenza I* was composed for flute in 1958, and the last *Sequenza XIVb* for double bass in 2002, just a year before his death.⁹⁹ The length of each *Sequenza* is between five and fifteen minutes and each was dedicated to one of the best performers on that specific instrument in the last forty years. *Sequenza I* was dedicated to Severino Gazzelloni,¹⁰⁰ and *Sequenza XIVb* was dedicated to Stefano Scodanibbio.¹⁰¹

⁹⁶ Luciano Berio as quoted in liner notes, "Sequenza VIII per violino solo" in *Sequenzas*, verses by Edoardo Sanguineti, trans. Stewart Spencer (Hamburg: Deutsche Grammophon GmbH, 457 0402, 1998), 17 and 67. Translation: I multiplied for you my voices, my words, my vowels, and cry, now that you are my invocation, edited by Giulia Green and Peter Tanfield.

⁹⁷ Luciano Berio, liner notes. *Sequenzas*, trans. David Osmond-Smith (Hamburg: Deutsche Grammophon GmbH, 457 0402, 1998), 8-10.

⁹⁸ Ivan Hewett, "Luciano Berio," *Guardian Unlimited* (28 May 2003) [Internet on-line]; available from <<http://www.guardian.co.uk/arts/news/obituary/0,12723,965393,00.html>> [7 April 2005].

⁹⁹ Universal Edition Music Publisher, *Berio Luciano (1925-2003). List of Works* [Internet on-line]; available from <http://www.uemusic.at/truman/en_templates/paste.php3?template=werk_list&spr=en&komp_uid=54&page=3> [24 August 2005].

¹⁰⁰ Severino Gazzelloni (1919-1992), was an Italian flute player and a teacher. He was the principle flute in the RAI orchestra for thirty years. Many compositions were dedicated to him written by outstanding composers such as Luciano Berio (1925-2003), Pierre Boulez (b.1925) and Igor Stravinsky (1882-1971).

¹⁰¹ Stefano Scodanibbio (b.1956), is contra-bass soloist and composer in Italy. Between 1980s and 1990s, his name has been connected to the renaissance of the double bass, playing in the major festivals throughout the world. Many works were written for Scodanibbio by world known composers such as Sylvano Bussotti (b.1931), Brian Ferneyhough (b.1943), and Iannis Xenakis (1922-1992).

David Osmond-Smith explains that Berio felt compelled to compose the *Sequenza* virtuoso series to revitalise the way composers and performers viewed traditional instruments.¹⁰²

Berio believed that it was not necessary to modify existing instruments, but rather to expand their acceptable capabilities.¹⁰³ He believed that in this way composers could and should contribute to the evolution of the playing of traditional instruments.

The title *Sequenza* reflects Berio's intention to explore in sequence the harmonic capability of each instrument. The *Sequenzas* demand virtuosity that, as Berio often emphasised, is not merely that of flying fingers or an agile tongue, but a virtuosity of "sensibility and intelligence" wherein the twentieth-century virtuoso should manifest the highest level of both technical and musical intellectual capabilities and understand a comprehensive history of their instrument.¹⁰⁴ In writing the *Sequenzas* series, Berio stated:

I'm much attracted by the slow and dignified transformation of instruments and of instrumental (and vocal) techniques across the centuries. Perhaps that's another reason why, in all my *Sequenzas*, I've never tried to change the genetic inheritance of the instrument nor sought to use it 'against' its own nature.¹⁰⁵

Sequenza VIII, the work chosen for this study, is generally recognised as being an extremely challenging work for the violinist. Commissioned by Serena de Bellis in 1976, *Sequenza VIII* is dedicated to Carlo Chiarappa¹⁰⁶ who premiered the work in La Rochelle, France on 1 January 1977.¹⁰⁷

¹⁰² Luciano Berio, liner notes. *Sequenzas*, trans. David Osmond-Smith (Hamburg: Deutsche Grammophon GmbH, 457 0402, 1998), 8-9.

¹⁰³ Ibid.

¹⁰⁴ David Osmond-Smith, "Luciano Berio," in *The New Grove Dictionary of Music and Musicians*, 2001 ed., 354.

¹⁰⁵ Luciano Berio, liner notes. *Sequenzas*, trans. David Osmond-Smith (Hamburg: Deutsche Grammophon GmbH, 457 0402, 1998), 9-10. Original texts see Appendix M.

¹⁰⁶ Carlo Chiarappa was born in Rome into a family with a musical background. He is a violinist and conductor. Since 1990, he was professor at the Conservatory of Music of Lugano (Switzerland).

¹⁰⁷ Universal Edition Music Publisher, *Luciano Berio: Work Info*, (2005) [Internet on-line]; available from <http://www.universaledition.com/truman/en_templates/paste.php3?template=werlinfo&spr=en&werk=46

Sequenza VIII shows Berio's compositional influences from two earlier significant composers: J. S. Bach (1685-1750) and Niccolò Paganini (1782-1840) and specific works of theirs, in particular Bach's Chaconne.¹⁰⁸

Bach's Chaconne is based on a fixed succession of harmonies. *Sequenza VIII* uses a similar structure to Chaconne, but it is different in that it cannot be harmonically analysed. The difference in the works' design is immediately apparent on a visual level. (See Figures 3.1.1 and 3.1.2.)

Figure 3.1.1 Excerpt from Chaconne, bars 1- 4, p. 5 by J. S. Bach



Figure 3.1.2 Excerpts from *Sequenza VIII per Violino Solo*, systems 75 – 76, p. 9 by Luciano Berio



Sequenza VIII is written by a combination of conventional and non-conventional notation (or called graphic notation). (See Figure 3.1.2.) The notation is guidance rather than giving exact directions through conventional symbols. For example, in Figure 3.1.2, the first sixteen notes are written in conventional way followed by the fingerings. However, in

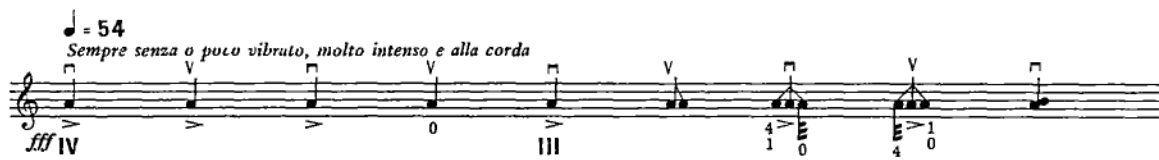
08&k...> [17 August 2005].

¹⁰⁸ J. S. Bach, Partita II for Solo Violin BWV 1004. A source is from Charles Burkhart, ed., *Anthology for Musical Analysis*, 3rd ed. (New York: Holt, Rinehart and Winston, 1979). Chaconne is the final movement of this partita.

subsequent sequences, Berio simply indicates phrases,¹⁰⁹ fingerings¹¹⁰ and string(s)¹¹¹ without writing exact notes.¹¹² (See Figure 3.1.2.) The music is indeterminate, which requires the violinist to improvise within a proscribed structure, and to incorporate melodic and rhythmic ideas as set out by Berio, although not written out in a conventional way.

The notation of a chord-like cluster in *Sequenza VIII* is different from that used by other more conventional composers; however the manner of playing the chord-like cluster remains unchanged. The effect is an extension of *delayed resonance*. (See Chapter Two.) Berio not only notates these chord-like clusters precisely but also specifies which different notes should be played with accents. (See Figure 3.1.3.)

Figure 3.1.3 Opening of *Sequenza VIII per Violino Solo*, system 1, p. 1 by Luciano Berio



In the end of Figure 3.1.3, the first chord-like cluster is based on the note a^1 , which is played on each of the G, D and A strings. The a^1 note, played on the G and D strings, should almost fill a crotchet's duration, while the a^1 on the A string is played almost like a grace note as shown by the demisemiquaver indication that completes the chord's notation. Throughout the entire piece all chord-like clusters are to be played in this manner. (See Figure 3.1.3.) In addition, At the opening of *Sequenza VIII*, as shown in Figure 3.1.3, Berio uses the crotchet ($\text{♩} = 54$) as the basic rhythmic indication, and *Sempre senza a poco*

¹⁰⁹ “ ”

¹¹⁰ 1432-2134-0132-1243. “0” refers to play on the open string as indicated.

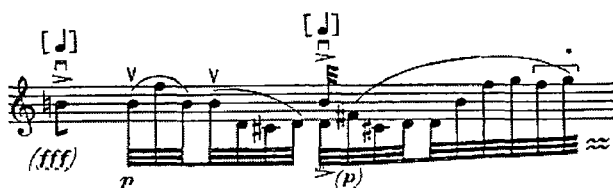
¹¹¹ “I” refers to the E string, “II” is the A string, “III” is the D string, “IV” is the G string.

¹¹² See Figure 3.1.9 for the further discussion.

*vibrato, molto intenso e alla corda*¹¹³ is the specific instruction for music execution. (See Figure 3.1.3.)

The crotchet, a basic rhythmic indication in *Sequenza VIII* (see Figure 3.1.3), is also used to distinguish the duration of grouped notes, the duration of different metronomic value and tempo variations, for example, Figures 3.1.4 and 3.1.5 (i) and (ii). (See Figures 3.1.4. and 3.1.5 (i) and (ii).)

Figure 3.1.4 Crotchet in *Sequenza VIII per Violino Solo*, system 8, p. 1 by Luciano Berio



In *Sequenza VIII*, the crotchet “[]” is used to indicate the duration of grouped notes. (See Figure 3.1.4.) In Figure 3.1.4, the first [] is placed above the quaver note $b^{\sharp 1}$. It has to be played as written, with the following group of demisemiquavers to last the duration of a quaver so that the whole sequence equals one crotchet. The second [] is used to indicate that the demisemiquaver pattern should be played as written, with the performer then repeating the last two notes “≈” until a sequence is equal to a crotchet. (See Figure 3.1.4.)

In order to develop the intensity of the music, the crotchet is also used to specify the metronomic change and tempo variations. (See Figures 3.1.5 (i) and (ii).)

¹¹³ Always without vibrato or with a little vibrato, very intense, and on the string.

Figure 3.1.5 Tempo variation in *Sequenza VIII per Violino Solo* by Luciano Berio

(i) systems 22 – 23, p. 3



(ii) systems 33 – 34, p. 5



In Figure 3.1.5 (i), the metronomic change is accelerated from $\text{♩} = 54$ to $\text{♩} = 72$ and even faster, $\text{♩} = 104$, all within the span of the crotchet. (See Figure 3.1.5 (i).) Figure 3.1.5 (ii) shows the tempo variation is precisely indicated by Berio by the use of *accel.* (*accelerando*) with a rightward arrow symbol (\rightarrow). (See Figure 3.1.5 (ii).) In Figure 3.1.5 (ii), system 34, the music begins with three groups of semiquavers within the *accel.*; Berio then allows a freer grouping within the *max.*, indicating an increase in speed the maximum possible before the pause (•). (See Figure 3.1.5 (ii).)

Berio numbers specific sequences, indicates durations and in some directions, but having started the series so categorically, he then leaves it to the performer to determine how the passage ultimately develops. (See Figures 3.1.6 (i) and (ii).)

Figure 3.1.6 Indeterminacy notation and performer’s improvisation in *Sequenza VIII per Violino Solo* by Luciano Berio

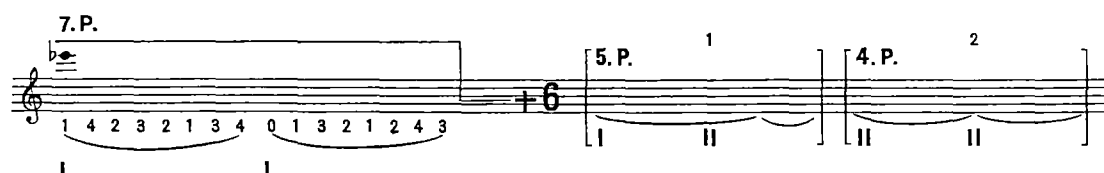
(i) systems 49 – 54, p. 7


(ii) systems 56 – 57, p. 7

In Figure 3.1.6 (i), the symbol “~” on the music means the performer may play any sequence to fill in the rest of sixty seconds indicated above. Each sequence is numbered, and some directions are given as to which order in which the sequences should be played, for instance, as written 1-2-3-4-5-6-2-5-3-2-4-1. Each numbered sequence should be repeated, always *staccato* and *pp*. Also, these numbered sequences may be reversed or inverted, but are only to be played on the A string. (See Figure 3.1.6 (i).)

Figure 3.1.6 (ii) shows the first sequence should last for twenty seconds and the second sequence for fifteen seconds. A number of chords are spaced throughout (see Figure 3.1.6 (ii)), between which the performer is required to play one sequence from any of the systems (see Figure 3.1.6 (i)), the choice of which is made by the performer.

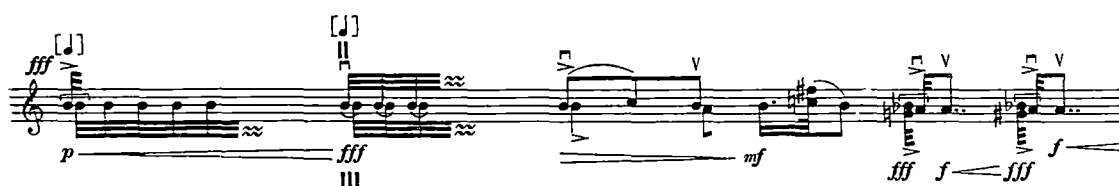
Figure 3.1.7 Fingering, finger positions and various sequences in *Sequenza VIII per Violino Solo*, system 69, p. 9 by Luciano Berio



In Figure 3.1.7, Berio indicates a sequence of fingerings: “1-4-2-3-2-1-3-4-0-1-3-2-1-2-4-3” which should be played on different strings and in different finger positions.¹¹⁴ Berio uses Roman Numerals to indicate which string to use, and an arabic numeral followed by the letter “P.” to show the finger position. Also, Berio uses what is generally accepted to be a phrase marking or slur “” to mean the pattern should be played *legato*, and “+6” to specify that an indicated pattern has to be repeated six times. (See Figure 3.1.7.)

The range of dynamic change is very broad in *Sequenza VIII* with changes from *pp* to *fff* frequently occur within many sequences, for instance, Figure 3.1.8. (See Figure 3.1.8.)

Figure 3.1.8 Dynamic changes in *Sequenza VIII per Violino Solo*, system 11, p. 2 by Luciano Berio



¹¹⁴ The violinist should memorise finger shifts between progressive specified finger positions as part of an exercise routine as shown in Figures 3.1.2 and 3.1.7. Appendix K, the finger position diagram, will assist the exercise routine. (See Appendix K.)

Figure 3.1.8 shows how each pattern is based on an unbroken stream of demisemiquaver, semiquaver and quaver notes with dynamics ranging from *piano* to *fortississimo*. As shown in the first pattern in Figure 3.1.8, two attached *double-stop*-like demisemiquaver notes b^2 , Berio marks *fff* and accented sign (>) above the upward stem of the demisemiquaver and indicates *p* below the downward stem of the demisemiquaver. The performer should apply *hyper-pressure* and *hypo-pressure* combination bowing techniques (see Chapter Two) to execute this specified dynamic requirement. (See Figure 3.1.8.)

Sound variations such as *tremolo*, *sul tasto*, and *sul ponticello* have become commonly used in twentieth-century music. (See Chapter Two.) The idea of combining these techniques in a very rapid alternation at “the point of contact”¹¹⁵ is highly challenging to the performer, requiring extremely precise right hand control. These three techniques rely on the player’s ability to analyse technical bowing requirements, to become aware of kinetic feedback and to maintain balance between weight and pressure to produce the desired sound. An effective way to practise combining these elements is to play the phrase with an awareness of the weight of the bow and the direction of the bow movement between the bridge and the fingerboard. The violinist should free the wrist of the bow hand, and let the bow travel up or down on the string using an appropriate bow speed. In *Sequenza VIII*, Berio uses a number of *sul ponticello* (*ponticello*) and *sul tasto* (*tasto*) bowing markings¹¹⁶ to “ease the tension of the music and to contrast the colour of the timbre”,¹¹⁷ for instance, Figure 3.1.9. (See Figure 3.1.9.)

¹¹⁵ The point of contact ranges between near or on the bridge to far over the fingerboard.

¹¹⁶ See Chapter Two.

¹¹⁷ Peter Tanfield, note to the author, 2005-2006.

Figure 3.1.9 Sound variations in *Sequenza VIII per Violino Solo*, system 48, p. 7 by Luciano Berio



In figure 3.1.9, Berio uses “—” to indicate the length of *ponticello* and *tasto* sequence and the “—” shows where the sequence should be completed. He also uses a comma symbol “,” to indicate a short pause, allowing the performer to draw attention to the change between *ponticello* and *tasto*. The performer can create very smooth connections at each change of bow from *sul ponticello* (upon/on the bridge) to *sul tast* (over the fingerboard). The left hand fingers must be free to move smoothly on the fingerboard without too much pressure. The coordination between the bow movement and the left hand fingerings will assist the performer to create a sound specific to each sound variation. (See Figure 3.1.9.)

Sequenza VIII provides a great opportunity for the performer to develop his/her playing ability. It is a well-organised and carefully constructed composition, consisting of specific features as discussed above. Practising each sequence within such a framework enables understanding of complex musical thought and tension, achieving solutions to technical problems, and building performance confidence.

3.2 Robert Davidson (b.1965), *Arch Canon for Three Violins* (1992)

Robert Davidson is a contemporary Australian composer specialising in minimalist music.¹¹⁸ In *Arch Canon for Three Violins*, the composer integrates several elements such as the repetitive phases and pattern music of minimalism with Indian folk song and the harmony of Baroque music to create a violin work of distinction and individuality.¹¹⁹

The title *Arch* is a pun alluding to both the Italian word for string instruments (archi) and the arch form of the work...*Arch* is constructed in sixteen-beat modules which are ordered with the intention of achieving a balance between repetition and variation, familiarity and surprise. When the centre of the piece is reached (signalled by fast repeated notes), the modules begin to run in reverse order until the opening is again heard. *Arch* was composed shortly after a lengthy period of music study in South India.¹²⁰

Davidson believes “this culture, at least to his ears, possesses greater subtlety of rhythm and melody than Western traditional music, but reaffirming to himself, the value of one of his own tradition’s greatest attributes, which is little developed in India – counterpoint. Davidson said: “the harmonic and textural aspects of the work are maintained as quite static, allowing for a focus on shifting and interweaving contrapuntal lines.”¹²¹

In a footnote to the score Davidson notes that the work “may be performed as a solo piece with recorded second and third parts.”¹²² Two versions of *Arch Canon for Three Violins* performances had been given in 1993. The first solo performance of *Arch Canon for Three Violins* was given in St. Mary’s Catholic Church, South Brisbane by Christa Powell, who

¹¹⁸ Terry Riley, *Links to other pages about Terry Riley*, (1998) [Internet on-line]; available from <<http://www.terryriley.com/links.htm>> [2 March 2004].

¹¹⁹ Robert Davidson, “Arch,” email to the author, 2 March 2006.

¹²⁰ Robert Davidson, liner notes, *Viola Power*, perf. Patricia Pollett (Tall Poppies, TP 098, 00297, n.d.).

¹²¹ Robert Davidson, “Arch,” email to the author, 2 March 2006.

¹²² Robert Davidson, *Arch Canon for Three Violins* (Robert Davidson, 1992). Second and third parts represent violin II and violin III.

is a violinist with the Topology ensemble.¹²³ The première of the three-violin version was given by Warwick Adeney, Juliette Middleton and Roland Adeney.¹²⁴

The following discussion focuses on two aspects: technological demands and musical challenges that will face by the solo performer (as the violin I) when playing this work.

Technological demands

Making a recording of the Violin II and III parts is an important step when preparing a solo performance of this piece. As the composer suggested to the author, “the best way is to play with the recording whether practising or performing.”¹²⁵ The main reason is that the feeling of performing with a recording is different from that of playing with two other people. When playing live with two other musicians all the players can hear and adapt their playing to each other. When playing with a recording, the sound will be directed towards the audience so the performer may not be able to hear the other parts easily, so he/she has to be extremely familiar and comfortable with the recorded parts (violin II and violin III).

Arch Canon for Three Violins has to be played precisely and accurately in time throughout the performance.¹²⁶ Davidson suggests that the performer use a click track.¹²⁷ In this piece he employs a variety of changeable rhythmic patterns. The function of the click track is to ensure that the performer maintains a steady tempo in live performance.

¹²³ Davidson established Topology in 1996, a contemporary string quintet. Davidson himself fills the role of double-bass. Topology has performed a number of music compositions including Davidson’s works and world premiers.

¹²⁴ Robert Davidson, email to the author, 28 February 2005.

¹²⁵ Robert Davidson, “Arch,” note to the author, 19 April 2005.

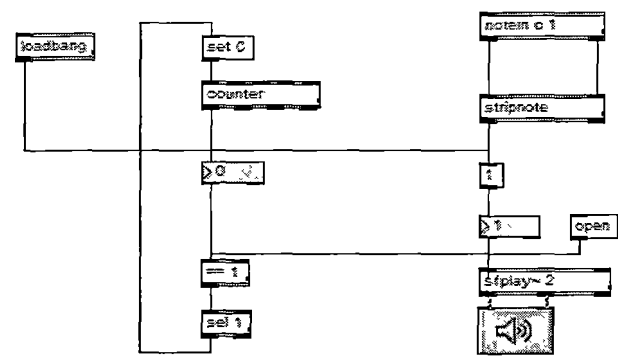
¹²⁶ Robert Davidson, “About Arch,” email to the author, 28 February 2006.

¹²⁷ A click track is the metronomic pulse produced as output from an electronic keyboard, when using one in live performance it becomes the input to the performer’s headphone.

There are two ways for the soloist to perform this piece. The first is to play with a recording; the second is to play with a delay unit.¹²⁸ Making a sound track involves: recording the violin II and violin III parts on to two tracks, mixing the two tracks in stereo so that one is projected from the left and one from the right, and burning these tracks on to an audio CD. This is a perfect tool for practice, even better if violin II and violin III are recorded with the click track. During a live performance the violinist will play accompanied by the audio CD.

The solo performance of *Arch Canon for Three Violins* using a delay unit requires an intricate setup which must be planned, the performance area blocked and marked in advance. Different setups may be used; the two illustrated in this paper differ in the equipment needed. When using a delay unit the soloist will be positioned in the middle of the available stage space. The delay unit should be set to two repetitions. The use of a delay unit requires standard recording studio facilities and the assistance of a sound engineer.¹²⁹ Figure 3.2.1 demonstrates the technological process of the recording in the live performance by using MAX.¹³⁰ (See Figure 3.2.1.)

Figure 3.2.1 MAX configuration designed by Kelly Ottaway. Figure provided by Kelly Ottaway, University of Tasmania, Conservatorium of Music



¹²⁸ Robert Davidson, "About Arch," email to the author, 28 February 2006.
¹²⁹ If the performance arena does not have the required studio equipment, the performer could play with a recording using a pedal to switch on the soundtrack
¹³⁰ Max was created by Miller Puckette. It is graphic MIDI signal-processing software and is named after Max Mathews.

Figure 3.2.2 The stage set-up has been used on 2 December 2004 for a live performance. The stage set-up was organised by Kelly Ottaway. Figure provided by Kelly Ottaway, Conservatorium of Music, University of Tasmania¹⁵¹

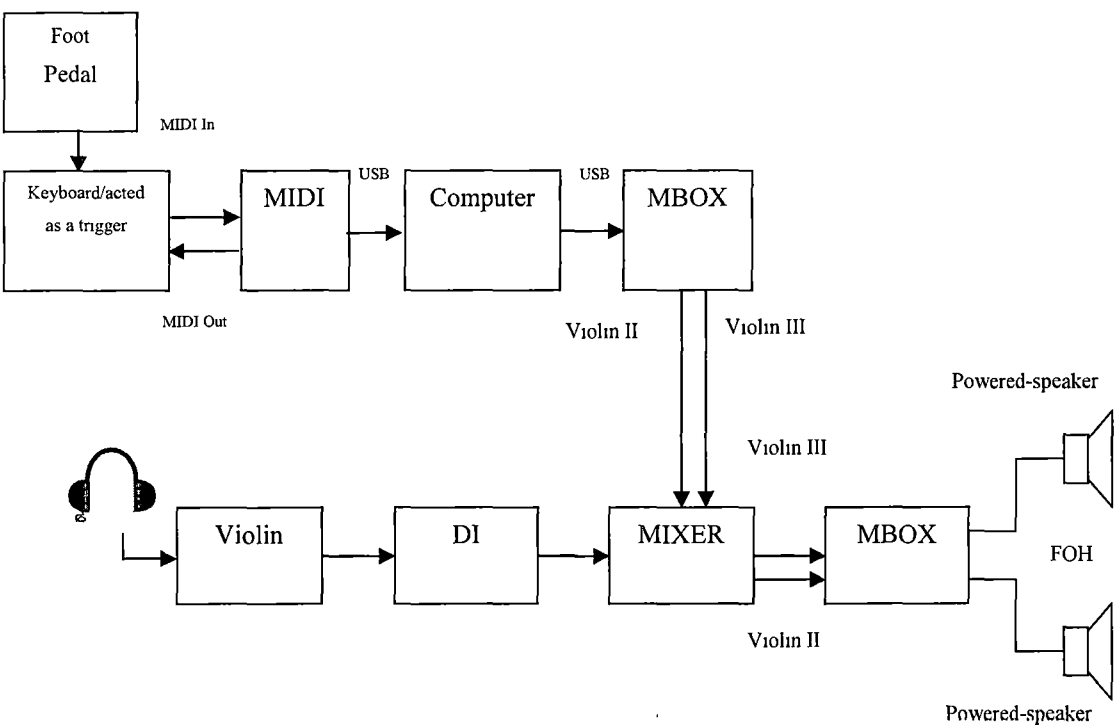


Figure3.2.2 is the simpler stage setup example. The pickup should be attached to the violin and to the pre-amplifier before the performer carries the instrument onto the stage. The performer should be wearing an electronic metronome audible via headphone(s). (See Figure 3.2.2.)

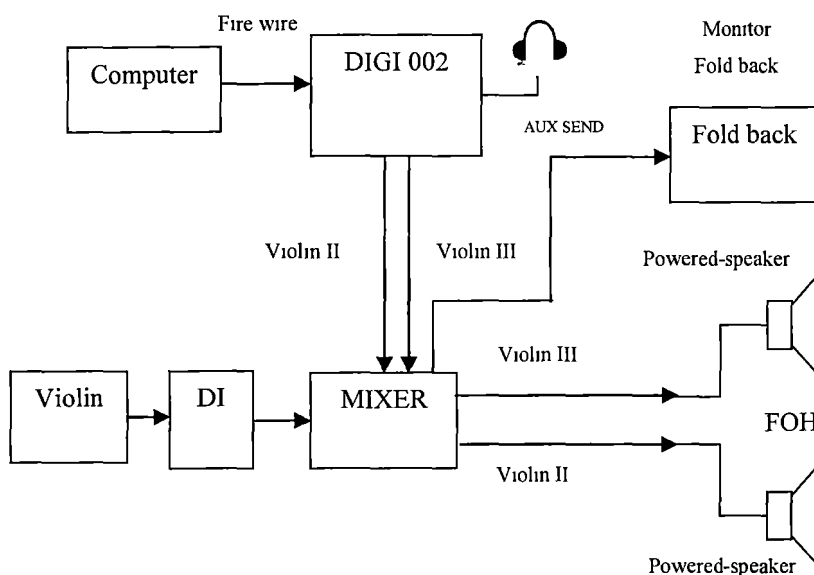
The performer begins when ready, and after four bars, presses a pedal to trigger the keyboard. This sends a MIDI signal to the MIDI interface, and then to the program MAX/MSP on the computer which activates the recording of the second violin part. The pre-recorded third violin automatically comes in four bars later. The timing of the two recorded violins can be achieved with Pro-tools, as they are on separate tracks, and can be timed to start at the appropriate place.

¹⁵¹ DI is an abbreviation of Direct Input.

The plug from the pre-amplifier leads directly to the Direct Input (DI) which in turn is plugged into the mixer's channel one. The two recorded violin II and violin III parts come from the computer through the MBOX, then to the mixer and input into channels two and three. All three channels, which consist of the live violin part and the recorded violin parts two and three, are sent through the main output which goes to two powered-speakers (Mackey srm450) which are directed towards the audience. (See Figure 3.2.2)

The more advanced setup is shown in Figure 3.2.3. Wearing headphones the performer walks onstage and plugs the electric violin into the phono plug, before signalling readiness to begin to the sound engineer who is sitting in front of the audience. The sound engineer immediately activates Pro-tools which begins playing the pre-recorded tracks. The click track is the first to begin, which only the performer can hear through the headphones. The click track has a two bar lead-in before the performer begins. After four bars of playing, the violin II comes in, and after another four bars the violin III. (See Figure 3.2.3.)

Figure 3.2.3 The stage set-up has been used on 6 May 2005 live performance. It was organised and designed by Greg Cracknell and Kelly Ottaway. Figure provided by Greg Cracknell, Audio Engineer¹³² and Kelly Ottaway, Conservatorium of Music, University of Tasmania



¹³² ICEPICK STUDIOS, operated by Greg Cracknell, an audio engineer in Hobart, Australia.

In Figure 3.2.3, the computer, which has the click track and the two recorded violin II and violin III parts first runs through DIGI 002¹³³ out of which the headphones receive the click-track. The signal paths carrying the two recorded violin II and violin III parts continue on to the mixer and input into channels two and three consecutively. All three channels, which consist of the live violin part and the two recorded violin parts two and three, are sent via an AUX send to a fold-back powered-speaker (Mackey srm450), as well as through the main output which goes to two powered-speakers directed at the audience. (See Figure 3.2.3.)

Musical challenges

Arch Canon for Three Violins is a very harmonious piece, which requires accurate intonation. The harmony of *Arch* is based on the D minor scale. Perfect fifth, major third and minor third are major intervals used in the whole piece. If any note is slightly out of tune, particularly playing in higher notes, it will be immediately noticeable when playing with a recording.

“*Arch* is a gradually evolving canon that goes back on itself” as it is titled.¹³⁴ The title consists of two meanings: 1) the shape of an “arch” (∩) and 2) the procedure of the “canon”.¹³⁵ The word “arch” illustrates the music process is designed by the shape of an arch-like curve. Davidson’s *Arch Canon for Three Violins* is a type of compositional

¹³³ DIGI 002 accompanied by Pro Tools LE is a fire wire-based music production system. The basic usage of DIGI 002 is to act as a digital to analogue / analogue to digital (AD/DA) converter and doubles as a mixer.

¹³⁴ Robert Davidson, email to the author, 19 April 2005.

¹³⁵ In the late twentieth century, when minimalism contrasted with serialism, suggests that the resurgence of *canon* was a complete natural development, a reassertion of the most basic elements of music: melody and repetition. A source from *Grove Music Online*. “Canon (i), 6.after 1900,” *Grove Music Online*, ed. L. Macy (2006) [Database on-line]; available from <<http://www.grovemusic.com/shared/views/article.html?section=music.04741.6#music.04741.6>> [25 December 2006].

procedure for exploring melodic and harmonic space without relying on functional harmony as a guide.¹³⁶ This work also creates its own harmonic functionality, resulting directly from melodic and contrapuntal considerations while performing the music.¹³⁷

Therefore, *Arch Canon for Three Violins* can be divided into seven practice sections. (See Table 3.2.1.) Each section is developed and varied by main motifs, and formed by exact repetitions, retrograded repetitions, segment repetitions or rhythmical variations. (See Table 3.2.1.)

Table 3.2.1 Table showing the practice sections, the procedure of the “arch” shape and the “canon”. The arrow shows the musical procedure of the “arch”, which also indicates the process of practice sections followed by the bar numbers.

Section	Bars (repetitions and variations)	<i>Arch Canon for Three Violins</i>	Section	Canon/bars (exact /retrograded repetitions)
VII → ↑		→ 173-184 (The plateau) →	→ VII ↓	
↑ V	145-156 (157-164)		↓ V	193-204 (145-156)
↑ IV	121-132 (133-144)		↓ IV	205-212 (retrograded 133-140)
↑ III	117-120 (101-104) 101-108 (109-116)		↓ III	213-224 (109-120)
↑ II	97-100 93-96 85-92 (75-72) 81-84 (variation) 65-72 (73-80) 53-64		↓ II	225-228 (97-100) 229-232 (81-84) 233-248 (retrograded 57-72)
↑ I	45-52 (variation) 25-36 (37-44) 1-12 (13-24)		↓ I	249-264 (retrograded 17-32) 265-270 (1-4, the coda)

¹³⁶ Ibid.
¹³⁷ Ibid.

Before discussing individual sections (see Table 3.2.1), the following is a useful instruction provided by the composer:¹³⁸

1. Stress dynamics is the biggest contrast. The performer should bring out different parts from the overall texture. Bow movement should be quite light to enable clear, strong accents and clear articulation.
2. An effective approach to take with Arch is to imagine one is playing Baroque music with an "authentic performance" attitude - light bowing, transparent sound, vibrato used sparingly and as a colour/ornamental device, insistent articulation, a glowing growth of sound with each sustained note, coming away in dynamics for resolutions, emphasis on accented dissonances and many other techniques of the Baroque violinist.
3. There must be a lot of attention given to achieving just intonation in the triads, thirds and other intervals to ensure the sound has a glowing quality. Dynamics should not be pushed too hard to ensure a generally transparent quality and room for accents, which should generally be clear and dramatic.
4. The sustained bowing style appropriate to Brahms should be very much avoided, and one should hear the difference between up and down bow as one would in listening to a Bach cello suite as played in 18th century style.
5. Repetitions should not be absolutely strict - small variations in colour and articulation are desirable.
6. Rhythmic flow should generally be strictly timed to allow the rhythmic counterpoint to emerge clearly.¹³⁹

The composer uses conventional notation and indicates a fast, energetic tempo ♩ = 176 in 4/4 (see Figure 3.2.4). The composer explains that the reason for this fast tempo is that he wants the music to be very energetic, rhythmic, metric and articulated.¹⁴⁰ The composer also indicates the opening articulation as "*marcato*",¹⁴¹ meaning that each note should be clearly marked and defined. Figure 3.2.4 also presents the main melodic and rhythmic motifs (bars 1 to 12) from which the piece is constructed, for example, significant rhythm and metre variations in *Arch Canon for Three Violins*. Bars 13 to 24 repeat the exact idea of opening themes. (See Figure 3.2.4.)

¹³⁸ Robert Davidson, "Arch," email to the author, 2 March 2006.

¹³⁹ Ibid.

¹⁴⁰ Ibid.

¹⁴¹ *Marcato* (It.), which means with distinctness and emphasis.

Figure 3.2.4 Section I, the opening themes in *Arch Canon for Three Violins*, bars 1 – 12, p. 1 by Robert Davidson



Figure 3.2.5 Section I, the contrasting melodic lines in *Arch Canon for Three Violins*, bars 25 – 36, p. 1 by Robert Davidson



In Figure 3.2.5, bars 25 to 28, the first four bars of the opening material are used again, this time however without the lower notes of the *double stops*. Bars 29 to 36 retain the same rhythm as the previous four bars (25 to 28). The composer reprocesses the melody from bars 9 to 12 within different phrasing and articulation. (See Figures 3.2.4 and 3.2.5.)

Figure 3.2.6 Section II, the syncopated rhythmic combinations in *Arch Canon for Three Violins*, bars 53 – 64, p. 1 by Robert Davidson



Figure 3.2.7 Section II, the rhythmic syncopation and impulse in *Arch Canon for Three Violins*, bars 97 – 100, p. 2 by Robert Davidson



In Figure 3.2.6, Section II, rhythmic syncopation and demi-triplet pattern are emphasised by the slurring and bow markings to develop contrasting melodic lines. In Section II, the violinist should apply a combination of *staccato*¹⁴² and *martelé*¹⁴³ bowing techniques to bring on contrast in the music. *Staccato* bowing technique is used in its generic sense. (See Figure 3.2.6.) In Section II, as shown in Figure 3.2.7, the composer also uses rhythmic variations, for example, rests, triplet semiquavers and demisemiquaver patterns to develop the tension of the music. (See Figure 3.2.7.)

Figure 3.2.8 Section III, the *spiccato* bowing technique in *Arch Canon for Three Violins*, bars 101 – 120, p. 3 by Robert Davidson



¹⁴² *Staccato* (It.), a non-legato *martelé* type of short bow-stroke played with a stop, the effect is to shorten the written note value with an unwritten rest. Joel Berman, Barbara G. Jackson and Kenneth Sarch, "Staccato," in *Dictionary of Bowing and Pizzicato Terms*, 4th ed. (Bloomington: American String Teachers Association, 1999), 47-49.

¹⁴³ *Martelé/marteler* (Fr.), *martellando/martellato/Martello* (It.), *gehammert* (Gr.), *Hammered* (E.). Ibid., "Martelé," 31-33. *Martelé* is a type of accentuated *staccato* bowing.

Figure 3.2.8, Section III, the music shows how contrast is established by ostinato rhythmic *double stop* patterns and distinct bowing technique. Davidson indicates *p sub. spiccato* [sic]¹⁴⁴ dynamic markings below *double stop* notes. The *spiccato* bowing technique has to be executed precisely and evenly. In Figure 3.2.8, the three violins align when the violin I begins bar 109, the violin II begins 105 and the violin III begins 101. For these twelve bars the canon will have two violins (violin I and violin III) playing identical material, and all parts playing aligned quavers. (See Figure 3.2.8.)

Figure 3.2.9 Section IV, the *legato molto* and *senza vibrato* and *poco vibrato* in *Arch Canon for Three Violins*, bars 121 – 140, p. 3 by Robert Davidson



Figure 3.2.9, Section IV, the composer utilises minims, crotchets and slurs in contrast the music with the previous Section III (see Figure 3.2.8). The performer may feel the tempo has become slower, but each bar should still be divided into eight quavers to keep the rhythmic pulse precise. The composer introduces conventional *legato molto*,¹⁴⁵ *senza vibrato* and *poco vibrato, espressivo* (with expression) as means of creating tonal contrast

¹⁴⁴ *sub.* is *subito*. *Spiccato* (It.) here refers to moderate speed of down- and up- bouncing bow strokes. Joel Berman, Barbara G. Jackson and Kenneth Sarch, "Spiccato," in *Dictionary of Bowing and Pizzicato Terms*, 4th ed. (Bloomington: American String Teachers Association, 1999), 46-47.

¹⁴⁵ The composer wants the sound is featured by Baroque-like playing technique, very *legato*.

the tone colour. Between bars 129 to 132, the composer notes *poco vibrato*, to distinguished *senza vibrato* and *vibrato* playing techniques. (See Chapter Two.) The timbre requirement of the Section IV, as shown in Figure 3.2.9, has to be pure, clean and delicate. (See Figure 3.2.9.)

Figure 3.2.10 Section V, the highest fingering, finger position and wide finger movement in *Arch Canon for Three Violins*, bars 145 – 156, p. 3 by Robert Davidson



Figure 3.2.10, Section V, is the most complicated section in *Arch Canon for Three Violins*. The challenge of the Section V is the rhythm, compounding the complexity of the fingerings. The best consistency of tone colour may be achieved by playing as much as possible on the E string. The c^4 , in bar 152 is the highest note in the piece. Among all high notes in this section, the intonation is particularly critical for high pitches such as f^3 , g^3 and a^3 . (See Figure 3.2.10.)

Figure 3.2.11 Section VII, the plateau section in *Arch Canon for Three Violins*, bars 169 – 180, p. 4 by Robert Davidson



As shown in Figure 3.2.11, *Arch Canon for Three Violins* approaches the most energetic movement. Between bars 169 and 172, Section VI, Davidson indicates *marcato* again, where he indicates at the beginning of the piece. The notes marked with a short line may be played *détaché*, which means “pressure is applied after a horizontal motion begins and peak volume is reached shortly after a soft initial attack”.¹⁴⁶ As indicated in the score, the *détaché* bowing helps to provide an expressive projection of musically important notes.¹⁴⁷ The note marked with a dot can be played with a *spiccato* stroke, requiring a moderate speed bouncing stroke.¹⁴⁸ (See Figure 3.2.10.) The plateau, Section VII, bars 173 to 176; the performer may apply two types of bow strokes, *sautillé* or rapid *détaché* to execute the rhythmic change between semiquavers and triplets. *Sautillé* is a rapid and alternating down- and up-bow bouncing stroke.¹⁴⁹ The difference between *sautillé* and rapid *détaché* is that *sautillé* should be played with the bow bouncing or springing on and off the string and rapid *détaché* should be played with the bow continuously in contact with the string. The composer’s advice regarding the sound he wants in this passage is a combination of *sautillé* with rapid *détaché* where the bow does not quite leave the string. (See Figure 3.2.11.) After completed this energetic Section VII (bars 173 to 184)¹⁵⁰, the music starts to retrograde prior sections. (See Table 3.2.1.)

The coda, from bar 265 to the end, repeats the exact idea of opening melodies (bars 1 to 4). (See Figures 3.2.4 and 3.2.12.)

¹⁴⁶ *Détaché* (Fr.). Joel Berman, Barbara G. Jackson and Kenneth Sarch, “Détaché,” in *Dictionary of Bowing and Pizzicato Terms*, 4th ed. (Bloomington: American String Teachers Association, 1999), 18-19.

¹⁴⁷ Ibid.

¹⁴⁸ Ibid., “Spiccato,” 46. *Spiccato* (It.) here refers to slow speed of down- and up- bouncing bow strokes.

¹⁴⁹ Ibid., 43.

¹⁵⁰ Bars 181 to 184 repeat exactly the idea of bars 173 to 176.

Figure 3.2.12 The coda in *Arch Canon for Three Violins*, bars 265 – 268, p. 6 by Robert Davidson



Between bars 265 and 268, the composer indicates that the violin I has to repeat twice.

The violin II will join the violin I four bars later, and the violin III begins after another four bars. All three violin parts are in unison, with the canon ending and the three violins playing the final line together. (See Figure 3.2.12.)

Arch Canon for Three Violins is an interesting piece that provides the performer with an opportunity to experiment with self-accompaniment and enables the audience to experience experimental sound production through the interweaving of both live and recorded sounds.

3.3 Damien Ricketson (b.1973), *Prakour for Solo Amplified Violin and Delay* (1994)

Prakour for Solo Amplified Violin and Delay was written in April, 1994, while the composer took part in the Youth Music Australia course “New Music Now” in Hobart. *Prakour* is dedicated to Naomi Radom (a friend of the composer), who gave the première performance in Hobart.¹⁵¹ During the “New Music Now” course performers and composers were put together in an environment where they had to work fairly quickly and collaboratively with one another. In response to my questions about *Prakour*, the composer reminisced about the time when he and Naomi Radom had to improvise on top of Mt. Wellington and in the Salamanca market.¹⁵²

“Prakour” was derived from a South Australian aboriginal word (Prakkin), meaning to rise. The title refers to the constant rise or increase in dramatic tension throughout the work.¹⁵³ Put simply, *Prakour* is a continuous build-up to one big climax. Despite a few meandering turns, the work begins almost inaudibly and ends with a bang, literally, when the performer is instructed to kick a rubbish bin.¹⁵⁴ On the front page of *Prakour*, the composer states that the music was “originally written as a collaborative improvisation between myself [Ricketson] and Naomi Radom under the title Ramp.”¹⁵⁵ “Ramp” or “Rampaullun” is also a South Australian aboriginal word, meaning to persuade someone to go with the speaker.¹⁵⁶

¹⁵¹ Damien Ricketson, “Re: Prakour,” email to the author, 31 August 2005.

¹⁵² Damien Ricketson, “Re: Prakour,” email to the author, 31 August 2005.

¹⁵³ A. W. Reed, comp., *Aboriginal Words and Place Names* (Adelaide: A H & A W Reed Pty. Ltd., 1981), 124.

¹⁵⁴ Damien Ricketson, “Re: Prakour,” email to the author, 31 August 2005.

¹⁵⁵ “Title page” in *Prakour for Solo Amplified Violin and Delay* (Damien Ricketson © September, 1994).

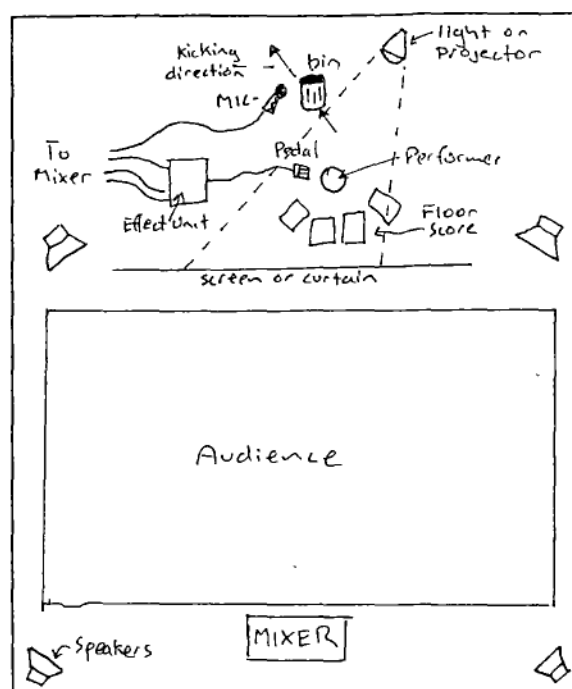
¹⁵⁶ A. W. Reed, comp., *Aboriginal Words and Place Names* (Adelaide: A H & A W Reed Pty. Ltd., 1981), 126.

Prakour is of interest because it presents technological challenges to the performer and provides the audience with the opportunity to hear amplified solo violin and to see an unusual live performance. The staging, including lighting and props, is carefully charted by the composer. Every element of performance, including the technical requirements, the optional visual element, staging instructions (a large floor score for the performer should also be included), mixing directions, performance directions, and the actual notation of the music is clearly specified on the sound projectionist's score.¹⁵⁷

Ricketson includes the below diagram to show the layout of the stage. (See Figure 3.3.1.)

Figure 3.3.1 Staging in *Prakour for Solo Amplified Violin and Delay* by Damien Ricketson

Staging:



For the optional visual element a light screen or curtain; and a spotlight or slide projector is recommended.¹⁵⁸ With regard to staging the performance, the composer explains:

¹⁵⁷ Damien Ricketson, *Prakour for Solo Amplified Violin and Delay*.

¹⁵⁸ Damien Ricketson, "Optional Visual Element" in *Prakour for Solo Amplified Violin and Delay*.

The performer should not be directly visible to the audience only his or her silhouette. This image should at least be three times their actual size. In the last two lines the performer should gradually move backwards towards the bin and light. This has the added visual effect of the performers [sic] silhouette growing larger on the screen.¹⁵⁹

For mixing directions the composer writes:

It is preferred that a second person be used to control the sound projection, as adjustments to the overall balance as well as quadraphonic panning is required. The violin and the bin-mic [sic] should be sent to all four outputs. The effect returns, left should be sent to 1 & 3 and the right to 2 & 4.
1 – FL: fade up front left speaker (channel 1)
2 – FR: fade up front right speaker (channel 2)
3 – BL: fade up back left speaker (channel 3)
4 – BR: fade up back right speaker (channel 4)¹⁶⁰
(If only a stereo performance is possible 3 – BL becomes 1 – FL and 4 – BR becomes 2 – FR)¹⁶¹

In order to present the work successfully, the performer will need the following:

- One pickup to be placed on the violin's bridge,
- One delay unit, having the facility for a bypass pedal¹⁶² (i.e. effect on or off). The type of delay preferred would be a stereo echo, left channel set to approximately 640.0ms, and right channel 740.0 ms, both channels should have a decay rate of 65%,
- One mixer-control board, preferably with the ability to send incoming signals to any of four outputs (quadraphonic version),
- Two power amplifiers (quad version), one power amp (stereo version),
- Four speakers, to be placed in the four corners on the performance venue. (quad version) two speakers, right and left of performer (Stereo version),
- One small metal garbage bin, continuing a range of objects such as metal piping, hinges, nails, glass, etc. (i.e. a range of harsh 'industrial' sounding objects, these should vary in size and weight),
- One microphone, to be placed close to the bin, and the kicking direction.¹⁶³

¹⁵⁹ Damien Ricketson, "Staging" in *Prakour for Solo Amplified Violin and Delay* by Damien Ricketson.

¹⁶⁰ A fade is created by a "fader" through attenuation, which is used to fade in/out an input source. This is achieved by reducing/increasing the amplitude of an electrical signal.





¹⁶¹ Damien Ricketson, "Staging," in *Prakour for Solo Amplified Violin and Delay* by Damien Ricketson.

¹⁶² A pedal is a lever activated by the one's foot.

¹⁶³ Damien Ricketson, "Requirements," in *Prakour for Solo Amplified Violin and Delay*.

A successful performance of *Prakour* relies as much on the expertise of the technician as on the ability of the violinist. Before attempting performance, the player must spend a considerable amount of time becoming familiar with sound distortion and light variation occasioned by the activity of the sound engineer. Once the equipment requirements are met, the performer will need a thorough understanding of the graphic notation that comprises much of the score. Of this understanding there are two key factors: firstly, the ability to execute the intent of the graphic notation; and, secondly, a willingness to manipulate conventional playing techniques to imitate environmental sounds.

Table 3.3.1 Table showing the division of *Prakour* into three sections, with each section exploiting various construct elements

Section/ Bar	Techniques	Symbols
Section I 1 – 	<ol style="list-style-type: none"> 1. <i>Sustaining a sound</i> 2. <i>Hypo-pressure (X)</i> 3. <i>Microtonal harmonics</i> 4. <i>Double stop harmonic</i> 5. <i>Seagull glissando and sideways vibrato harmonics</i> 	<ol style="list-style-type: none"> 1. “▼” turn the delay on and off 2. The finger placement has to be approximated equally “ ” 3. “X” no pitch
Section II  – bar 91 (semiquaver pattern, M.M. $\theta = 50$)	<ol style="list-style-type: none"> 1. “over fingerboard” (S.T.) and “bridge” (S.P.) 2. <i>Spiccato</i> 3. <i>Double stops</i> 	<ol style="list-style-type: none"> 1. <i>sffz</i> may be applied to on all accents “>”
Section III Bar 92 to the end	<ol style="list-style-type: none"> 1. <i>Hyper-pressure</i> 2. <i>Spiccato</i> 3. <i>with ‘guts’</i> 	<ol style="list-style-type: none"> 1. “ ” kick the rubbish bin

Prakour may be divided into three sections. (See table 3.3.1.) This will help the performer to learn and to understand the music logically and systemically.

As described by the composer, many of the unusual symbols used reflect a crude representation of the type of sound to be experienced by the audience.¹⁶⁴ The composer has used graphic notation in this piece to indicate to the performer that the violin should imitate “environmental sounds around Salamanca and Mt. Wellington, such as wind noise and seagull cries”.¹⁶⁵ For example, a horizontal band of vertical wavy lines has been used to represent a wind-like sound (see Figure 3.3.2) – indicating to the performer the need to create a noise-band without distinct pitch, although it may still rise or fall in tessitura.¹⁶⁶ The ascending and descending bands of wavy lines between two notated *harmonics* indicate to the performer that the sound should be like the cry of a seagull. (See Figure 3.3.2.)

Figure 3.3.2 Graphic notation of ‘wind-like sounds’ in *Prakour for Solo Amplified Violin and Delay*, bars 1 – 5, p. 1 by Damien Ricketson

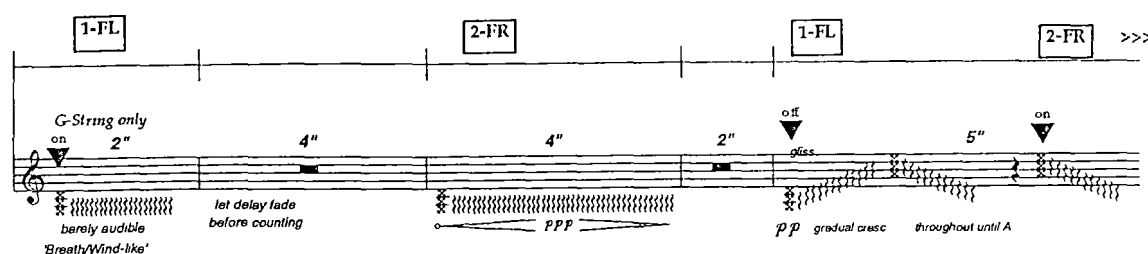


Figure 3.3.2 illustrates some interesting extensions of conventional playing techniques. The composer demands the performer to use certain left hand techniques such as *sustaining a sound* and *hypo-pressure*. (See Chapter Two.) At the beginning, the performer is required to place two or three left hand fingers on the G string, touching the string gently. This movement prevents the vibration of the G string. The bowing

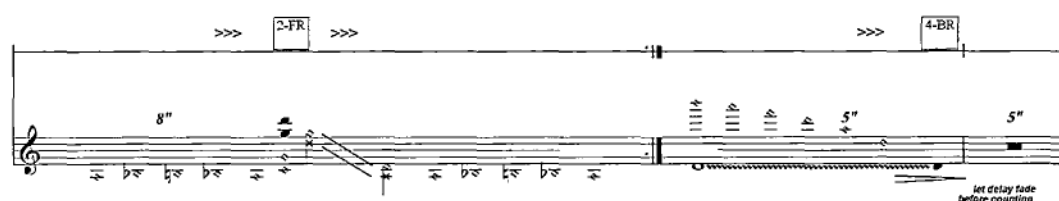
¹⁶⁴ Damien Ricketson, “Re: Prakour,” email to the author, 31 August 2005.

¹⁶⁵ Ibid.

¹⁶⁶ Tessitura (It.), texture, a term used to describe the part of a vocal (or less often instrumental) compass in which a piece of music lies – whether high or low. A source from Grove Music Online. Owen Jander, “Tessitura,” *Grove Music Online* ed. L. Macy (2006) [Database on-line]; available from <http://www.grovemusic.com/shared/views/article.html?from=search&session_search_id=581021766&hitnum=1§ion=music.27741> [26 November 2006].

technique remains conventional. Where there is no pitch stipulated, the performer should focus on the cooperation between the bow and the finger movement in order to produce the desired timbral effect, which in this example is to emulate “wind-like” sound. For instance, in bar 1 (see Figure 3.3.2), the composer’s instructions read “*barely audible*” and “*breath/wind-like*”. On page 1, bar 2, the composer notes “*let delay fade before counting*”, indicating the player must allow the sound to disappear naturally before resuming the performance. The instruction to “*continue in similar vain [sic]*” refers to the mood of the music rather than the notes. The most important message on this page is the gradual *crescendo* throughout until [A]. Although it is difficult to sustain a *crescendo* for this long, the tension created by the cumulative effect is massive. (See Figure 3.3.2.)

Figure 3.3.3 “Seagull gliss.” in *Prakour for Solo Amplified Violin and Delay*, bars 15 – 17, p. 1 by Damien Ricketson

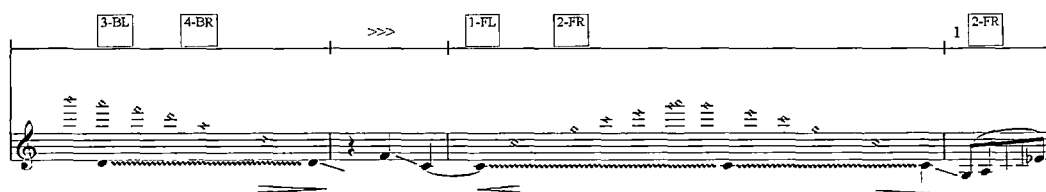


The composer has used a combination of *harmonics glissando* to represent natural environment sounds (see Figure 3.3.3). Technically, the violinist must slide a left hand finger up and down the G string. The pitch of this *harmonic glissando* has not been indicated on the score; however, according to the composer’s instructions, the resulting sound should be bird-like.¹⁶⁷ Two different types of continuous *harmonics* have been used: fixed pitch *artificial harmonics*, and *natural harmonic* to vary the timbre for which the violinist simply has to place the finger in the first position on the G string. Some of these *artificial harmonics* are hard to produce, challenging the performer’s hearing skills and left hand finger adjustment.

¹⁶⁷ Damien Ricketson, “Performance Directions” in *Prakour for Solo Amplified Violin and Delay* by Damien Ricketson.

Figure 3.3.4 illustrates Ricketson's use of a wavy horizontal line to indicate *sideways vibrato harmonics*.¹⁶⁸ (See Figure 3.3.4.)

Figure 3.3.4 *Sideways vibrato harmonics in Prakour for Solo Amplified Violin and Delay, bars 28 – 32, p. 2 by Damien Ricketson*



A *sideways vibrato harmonic* is a type of *microtonal harmonic* variation achieved by gently pulling the G string sideways to touch the D string, raising the pitch of the harmonic. The desired effect is the imitation of any natural or artificial environmental sound. This technique can be used with *natural harmonics* or *artificial harmonics*. A *harmonic* is usually heard as pure, unchanging pitch without *vibrato*. The microtonal bends available with *sideways vibrato harmonics* offer fresh sound possibilities.¹⁶⁹ The harmonic notes with the diamond head (♢) above a wavy line refer not to actual *harmonics*, but to the tendency of the basic notes d¹ or c¹ to jump up to harmonic partials when playing extreme *sideways vibrato*.¹⁷⁰ (See Figure 3.3.4.)

Section II begins at C as shown in Figure 3.3.5, the music is written by the conventional notation. In Figure 3.3.5, the composition marks *sul tasto* and *sul ponticello* (see Chapter Two), above *double stops*, to contrast the tone production. The playing of the *double stops* at C is with the open D string with the left hand fingers changing on the G string. The

¹⁶⁸ The composer also stated in an email of August 31 2005 to the author that the symbols were also chosen from the somewhat limited palette available in an early version of the notation program *Finale*.

¹⁶⁹ Patricia Strange and Allen Strange, "Harmonics," in *The Contemporary Violin: Extended Performance Techniques* (Berkeley: University of California Press, 2001), 138.

¹⁷⁰ Damien Ricketson, "Performance Directions," in *Prakour for Solo Amplified Violin and Delay* by Damien Ricketson.

performer should feel the main pulse whilst being acutely aware of the divided rhythm and the added complexity of the unevenly accented above notes. The notes in each bar are unequally accented; the performer must maintain metronomic accuracy, while playing these unequally accented notes. (See Figure 3.3.5.)

Figure 3.3.5 *Double stop in Prakour for Solo Amplified Violin and Delay*, bars 64 – 66, p. 3 by Damien Ricketson

Figure 3.3.5 shows an example of the composer’s use of conventional notation combined with instructions to the sound engineer in order to create unique sounds. The composer does not use traditional indications such as *sul tasto* and *sul ponticello*, but writes in English “*over fingerboard* [sic]” and “*bridge*”. The length of each note of this passage should be sounded equally and succinctly.¹⁷¹ *Détaché* and *spiccato* bowings are used in combination. *Détaché* may be used for notes maintaining the same/similar pattern or staying on the same finger position or strings while *spiccato* may be utilised for notes involving string crossing or between all strings. The combination of *détaché* and *spiccato* throughout section II results in a constant metronomic sound broken by irregular accented outbursts.¹⁷² (See Figure 3.3.5.)

¹⁷¹ Peter Tanfield, note to the author, 2005-2006.
¹⁷² Many gestures in this piece require the performer to repeat motions that initially might be awkward. Much playing of such gestures can lead to fatigue or possible RSI injury. In Figure 3.3.6 the performer must counter possible tension generated in the right hand as it requires the muscles of the right hand to repeat the same motion numerous times.

Figure 3.3.6 Triplet demisemiquaver patterns in *Prakour for Solo Amplified Violin and Delay*, bars 100 – 108, p. 5 by Damien Ricketson

The image displays a musical score for a solo amplified violin, consisting of four staves. The first staff begins with a treble clef and contains a triplet demisemiquaver pattern. Above the staff, there are three boxes labeled '1-FL', '2-FR', and '3-BL'. The music starts with a *pp* (pianissimo) dynamic, followed by a *f* (forte) dynamic. A 'loud & fast' instruction is written above the staff. The second staff continues the triplet pattern, with boxes labeled '1-FL', '3-BL', and '4-BR' above it. The third staff also continues the pattern, with boxes labeled '1-FL', '2-FR', and '4-BR' above it. The fourth staff features a 'All Four' marking above the staff, indicating a full four-part texture. The music concludes with a trill ('tr') and a final triplet demisemiquaver pattern.

In Section III, particularly from bar 102, the composer notes “*loud & fast*” to indicate the performer must increase volume as much as possible. This increase of volume is a significant technical challenge for the performer. To obtain the requisite volume the left hand must be energetic and rhythmic but yet still very relaxed and flexible. Meanwhile, the performer should feel the main four crotchets but also feel each crotchet divided into two quavers. In Figure 3.3.6, between bars 102 and 107, this feeling of the beat especially important. These bars are based on a triplet demisemiquaver pattern. The triplet demisemiquaver pattern requires very short and fast bow movement. The sound must be loud, solid and constant. (See Figure 3.3.6.) In Section III, as shown in Figure 3.3.6, because not all triplet demisemiquavers use the same pitches, the performer must take care to read the notes carefully, for instance, bars 104 to 105. (See Figure 3.3.6.)

The biggest climax in *Prakour* is the last page of the music. (See Figure 3.3.7.)

Figure 3.3.7 The biggest movement of *Prakour for Solo Amplified Violin and Delay*, bars 112 – 117, p. 6 by Damien Ricketson

The musical score for bars 112–117 of *Prakour for Solo Amplified Violin and Delay* by Damien Ricketson is presented on three staves. The first staff begins with a box labeled "All Four" and a dynamic marking of *ff* with the instruction "cresc & accel till end". The second staff is marked "with guts" and "Increase vol throughout". The third staff includes the instruction "fade up bin mic", an "accel" marking, and "crash vol should border on painfully loud". The score concludes with a drawing of a boot kicking a cylinder, with a quaver symbol on top, and the instruction "loud as poss".

In section III, there are few dynamic markings until six bars before the end when the composer indicates by the use of traditional signs and the English words “*with guts*” and “*border on painfully loud*”. This is the beginning of the build-up to the biggest climax in *Prakour*. This climax of *Prakour* must be as dramatic, noisy and exciting as possible. The little drawing of the boot in contact with a cylinder on the top of which is a quaver symbol tells the performer to kick the rubbish bin violently, thus ending the performance.

Ricketson’s *Prakour* explores conventional and non-conventional notation to enable the performer to emulate various environmental sounds. The composition combines the use of technology with the extension of conventional playing techniques to create an interesting audio-visual experience for both performer and audience.

3.4 Clarence Mak, *Image for Solo Violin* (1999)

The final work to be discussed in this chapter is Clarence Mak's *Image for Solo Violin*.

The combination of Western training with a Chinese background provided the inspiration for Mak's compositional style. In this particular work Mak uses the material from a traditional Chinese folksong.¹⁷³ The sonorities explored in the piece provide colourful contrasts of mood and atmosphere. The work challenges the performer to imitate a particular style of Chinese folksong melody-singing by the characteristic use of *glissando*, grace notes, *vibrato* and *microtones*, and some non-conventional violin playing techniques. To add to the individuality created by the imitation of the singing style the performer is free to vary the tempo of the slow sections.¹⁷⁴

Image for Solo Violin imitates in particular the sounds of Chinese stringed (*erhu*), bamboo (*di*) or plucked instruments (*zheng* and *pipa*), all commonly used for small ensembles in traditional Chinese folk song, Chinese Theatre or Cantonese Theatre.¹⁷⁵ The musical style of *Image for Solo Violin* draws inspiration from this type of small ensemble.

Image for Solo Violin is an evocation of non-Western instrumental sounds through the use of a European violin; an understanding of various non-Western instrumental sounds is therefore paramount. The following discussion focuses on aspects of the piece that show how the composer has been able to use a western instrument and mostly conventional notational symbols to explore non-Western musical sounds.

¹⁷³ Clarence Mak, "Composer and Performance Notes" in *Passions Within* (Footscray: Red House Editions, 2001), 5.

¹⁷⁴ *Ibid.*, 5.

¹⁷⁵ T. M. McComb, *China: Classical Instrumental Music*, (23 March 2006) [Internet on-line]; available from <<http://www.medieval.org/music/world/china.html>> [17 June 2006].

At the beginning of *Image for Solo Violin*, the performer is asked to imitate the *glissando* of the *erhu* and the fast *trill*-like mordents of the *di* in Figure 3.4.1. (See Figure 3.4.1.)

Figure 3.4.1 *Erhu or di sound in Image for Solo Violin*, system 1, p. 50 by Clarence Mak



In Figure 3.4.1, the composer uses a downwards curved arrow to indicate a *glissando* after the note octave higher d^{#2}, the second note of this segment. The performer should establish the octave higher d^{#2} and then start sliding the left hand finger slowly but with increasing speed toward the open E string. A slow, wide *vibrato* is most effective for furthering imitating the sound of the *erhu*. The grace notes and syncopated rhythm of each slurred phrase in this passage emulate the sound of the fast *trill*-like mordents particular to the *di*. Each note and each phrase has to be connected without interruption, requiring good control of the bow and a sensitive left hand. Although the composer has marked ♩ = 48, “an unequivocal tempo marking, the model of the *erhu* gives licence for an organic freedom within an easy, implicitly felt pulse.”¹⁷⁶ (See Figure 3.4.1.)

In *Image for Solo Violin*, the composer also uses conventional notation to imitate the alternating finger movements employed in Chinese plucked string instruments such as those of the *zheng* or *pipa*-like sound.¹⁷⁷ The finger rotation sound in Chinese Theatre is used to portray passion, intense emotion or a struggle or to conjure the image of ten

¹⁷⁶ Peter Tanfield, note to the author, 2005-2006.

¹⁷⁷ Xiaoyu Li, *The Internet Chinese Music Archive: Traditional Music*, (1998) [Internet online]; available from The Great Empire of China < <http://www.ibiblio.org/chinese-music/html/traditional.html> > [17 June 2006].

thousand horses galloping ahead of a powerful army.¹⁷⁸ However, on Chinese instruments the sound of finger rotation is achieved by plucking strings with finger of the right hand. In *Image for Solo Violin*, the composer's imitation of finger rotation sound is produced by using a combination of *martelé*¹⁷⁹ and *portato*¹⁸⁰ bowing with the conventional left hand finger technique. (See Figure 3.4.2, from ♩ = 120.)

Figure 3.4.2 Zheng or pipa-like sound in *Image for Solo Violin*, system 5, p. 50 by Clarence Mak



From ♩ = 120, as shown in Figure 3.4.2, the performer must employ bowing to imitate the finger rotation sound derived from Chinese plucked string instruments. In this Figure 3.4.2, some accent marks (>), notated below notes, are used to emphasise the sound effects. The *ff* tone should be precise, determined and strong but very controlled for maximum intensity. “The performer may apply slightly faster and narrower vibrato while playing notes with accented markings.”¹⁸¹ “A constant tempo must be maintained so that the music remains rhythmic, powerful and clearly articulated.”¹⁸² (See Figure 3.4.2.)

¹⁷⁸ Xiaoyu Li, The Internet Chinese Music Archive: Traditional Music, (1998) [Internet online]; available from The Great Empire of China < <http://www.ibiblio.org/chinese-music/html/othertype.html> > [17 June 2006].

¹⁷⁹ *Martelé* (French), *martellando/martellato/martello* (Italian) or *gehämmert* (German) is a slightly sharp accented, staccato bowing. To produce the attack, pressure is applied an instant before bow motion begins. *Dictionary of Bowing and Pizzicato Terms* by Joel Berman, Barbara G. Jackson and Kenneth Sarch.

¹⁸⁰ *Portato* (Italian) or *porté* (French), is a slurred, on-string bowing technique. It is used in the quoted passage to emphasise or to add an accent at the beginning of each sustained bowing articulation without stops or breaks. *Dictionary of Bowing and Pizzicato Terms* by from Joel Berman, Barbara G. Jackson and Kenneth Sarch.

¹⁸¹ Christian Wojtowicz, note to the author, 2005-2006.

¹⁸² *Ibid.*

In *Image for Solo Violin*, as shown in Figure 3.4.3, the composer uses *accelerando*, *microtone*, *glissando* and *vibrato* playing techniques to imitate *erhu*-like or *di*-like sound effects. (See Figure 3.4.3.)

Figure 3.4.3 *Accelerando and microtone in Image for Solo Violin, system 2, p. 50 by Clarence Mak*



In Figure 3.4.3, the composer uses left hand *microtones* and *glissando* techniques and right hand *accelerando* technique to replicate the *erhu*-like (Chinese fiddle) or *di*-like (Chinese flute) sound effects. In very high left hand positions, “a delicate sliding or inclining finger movement is often sufficient to distinguish normal accidental notes from natural notes and one-quarter higher *microtones* in slower, lyrical passages.”¹⁸³ For greater clarity of the tone during the *accelerando* (see Figure 3.4.3) required for this passage however, the performer should use individual finger articulations on *microtones* (♯) at one octave higher notes d^{♯2} and c^{♯2}. The performer should use the index finger of the left hand to play *microtone* d^{♯2} and the second finger for c^{♯2}, placing these two fingers on the fingerboard as close together as possible. The free *accelerando* typical of the *erhu* or *di* has been indicated by gradual widening of spaces between the strokes across the note stands. At the end, the composer uses a horizontal zigzag line becoming gradually heavier and wider, with a curved arrow, to illustrate the sound becomes louder, and the *vibrato* wider ending the downward *glissando*. (See Figure 3.4.3.)

There are two types of *pizzicato* (see Figure 3.4.4) used to create the sound of Chinese plucked instruments such as the *zheng* or *pipa*. The composer uses a conventional

¹⁸³ Peter Tanfield and Christian Wojtowicz, notes to the author, 2005-2006.

pizzicato symbol, “pizz.” as well as a \odot symbol, the *Bartók pizzicato* (see Chapter Two) to replicate this sound effect. (See Figure 3.4.4.)

Figure 3.4.4 *Pipa- or zheng-like sound in Image for Solo Violin, system 8, p. 50 by Clarence Mak*



In Figure 3.4.4, in order to produce a *pipa-* or *zheng*-like sound while playing Mak’s *Image for Solo Violin*, the performer should apply a wide *vibrato* while plucking the string.¹⁸⁴

In *Image for Solo Violin*, the composer uses *Microtone harmonics*¹⁸⁵ to imitate the sound of Chinese woodwind instrument such as *di*. In Chinese music, *di* normally is used to depict the bird sound or the sound comes from long-distance sound. Figure 3.4.5 demonstrates a *microtone harmonics* passage appearing as *double stops* above the whole note *a*¹. (See Figure 3.4.5.)

Figure 3.4.5 *Artificial microtonal harmonics in Image for Solo Violin, system 4, p. 52 by Clarence Mak*



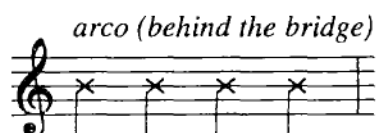
In Figure 3.4.5, on the second beat of the first bar, the bottom whole note *a*¹ has to be played on the open A string by the use of *delayed resonance* (Chapter Two). The actual note of the *f*[#] will sound two octaves higher. The means of producing this *artificial harmonic* is as follows: the middle note “*f*[#]²” and the top *b*^{b2} should be on the E string,

¹⁸⁴ Christian Wojtowicz, note to the author, 2005-2006.

¹⁸⁵ Patricia Strange and Allen Strange, “Microtone Harmonics,” in *The Contemporary Violin: Extended Performance Techniques* (Berkeley: University of California Press, 2001), 138.

then 1st finger on f^{#2} should be stopped firmly and the top note b² lightly. The effects of artificial harmonics always result in a sound two octaves above the firmly stopped notes.¹⁸⁶ (See Figure 3.4.5.)

Figure 3.4.6 Playing behind the bridge in *Image for Solo Violin*, system 1, p. 52 by Clarence Mak



In Figure 3.4.6, the composer uses the cross sign (x), to indicate playing behind the bridge, which produces an un-pitched noise.¹⁸⁷ The timbral quality of the sound production at this moment is of more importance than the pitch. (See Figure 3.4.6.)

Figure 3.4.7 Bow division for playing behind the bridge



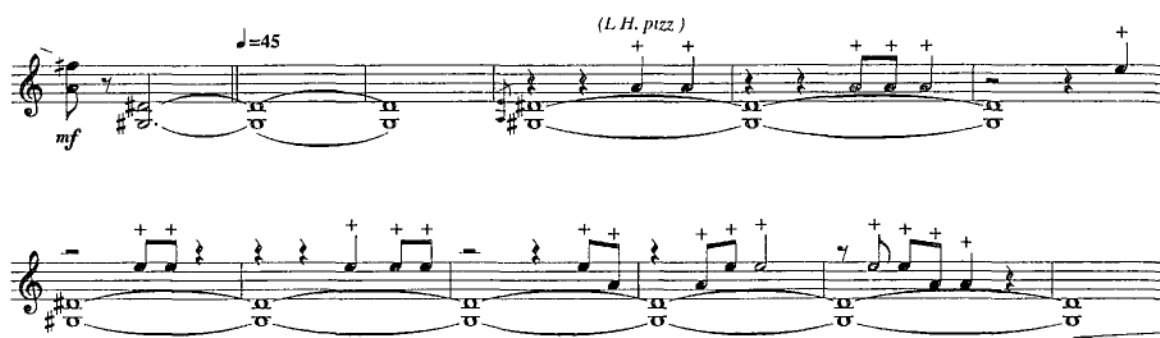
Figure 3.4.7 illustrates the middle of the bow is the most effective part to use between the bridge and the tailpiece. To enable clear the sound production, the performer may use slight finger movement of the bow hand, adding impulse to each bow stroke.

Not only does Mak ask the performer to imitate particular non-Western instruments individually, but towards the end of the piece he combines these sounds, as in the passage where the performer must play simultaneously *double stops* and left hand *pizzicato*. (See Figure 3.4.8.)

¹⁸⁶ Peter Tanfield, note to the author, 2005-2006.

¹⁸⁷ Joel Berman, Barbara G. Jackson and Kenneth Sarch, "Behind the Bridge," in *Dictionary of Bowing and Pizzicato Terms*, 4th ed. (Bloomington: American String Teachers Association, 1999), 11.

Figure 3.4.8 *Erhu-, pipa- or zheng-like sound imitation in Image for Solo Violin, systems 2 – 3, p. 52 by Clarence Mak*



In Figure 3.4.8, the sound effect is a combination of *erhu*-like sound in the lower sustained *double stops* and *pipa-* or *zheng*-like sound by the use of left hand *pizzicato* (+). In order to produce the *erhu*-like sound, the performer should apply the *delayed resonance* bowing technique (see Chapter Two) to execute the bottom *double stops* g[#] and d[#]¹. (See Figure 3.4.8.)

Figures 3.4.9 (i) and (ii) present a similar passage but the owing technique indicated for each one is different. (See Figures 3.4.9 (i) and (ii).)

Figure 3.4.9. Contrasting bowing techniques in *Image for Solo Violin*

(i) system 5, p. 50 by Clarence Mak

(ii) system 7, p.52 by Clarence Mak



In Figure 3.4.9 (ii), the composer employs *tremolo* without *microtones*, requiring the performer to apply extreme energy and to sustain the sound production as continuously as possible. The *tremolo* imitates the sound of the *pipa*. “The performer should strive to

make a clear and constant sound, applying minute bow strokes with efficient use of power.”¹⁸⁸ (See Chapter Two.)

The other difference between Figure 3.4.9 (i and ii) is the dynamic treatment. In Figure 3.4.9 (i), the composer requires *ff* throughout the passage but extends the dynamic to *fff* at the whole note $d^{\sharp 1}$. After producing the *fff* sound, the performer suddenly has to reduce the dynamic to *p*, which is followed almost immediately by the *crescendo*. By contrast, in Figure 3.4.9 (ii), the composer indicates that the performer should maintain *ff* throughout the entire passage and suddenly reduce the volume to *pp*, this time without any *crescendo*. For this passage, the best sound will be achieved by using the middle section of the bow for *fff* or *ff*, allowing an up-bow will continue until the frog is reached. The player then uses the flexibility of the wrist at the frog to play the grace notes with ease and clarity. To successfully complete this passage, the performer then pulls rapidly to the upper half of the bow to produce *p* or *pp*, without any interruption. These two contrasting passages challenge the performer’s bow control as well as left and right hand coordination.¹⁸⁹

The dramatic dynamic markings need to be considered carefully in *Image for Solo Violin*. In Chinese Theatre music, few dynamic markings are used for a romantic mood, whereas “exaggerated dynamics could be expected when evoking moods of strife or aggression.”¹⁹⁰ *Image for Solo Violin* shows that a violin can interpret non-Western music and reproduce the appropriate sound, giving the audience a cross-cultural experience. The audience does not need a specific cultural or language context to enjoy the performance.

¹⁸⁸ Peter Tanfield, note to the author, 2005-2006.

¹⁸⁹ Ibid.

¹⁹⁰ Ibid.

The feature common to all four discussed compositions is the use of contemporary experimental ideas to challenge the performer and engage the audience. Berio's *Sequenza VIII* does this by providing the performer with an opportunity to exhibit virtuosity and flamboyance. Davidson's *Arch Canon for Three Violins* requires complex rhythmic synchronicity between live and pre-recorded performance. *Prakour for Amplified Violin* and *Delay* by Ricketson capitalises on the performer's ability to coordinate playing with the presentation of a complex audio and visual structure. *Prakour*'s communication of indeterminist ideas is reiterated in Mak's *Image for Solo Violin*. Mak's cross-cultural composition delivers to the audience a musical experience of sound which the performer must execute with panache. All of these compositions illustrate innovations used to produce a sound, and a performance that is unusual and non-traditional. In all of these pieces, the performer is required to master both theoretical and technical challenges in order to provide a performance that will makes sense to the audience.

Chapter Four

Conclusion

This study has attempted to provide a fresh perspective on contemporary violin performance. The discussion of traditional violin performance in this exegesis has included playing techniques, sound production, notation, musical interpretation and musical expression such as found in the Violin Sonata No. 1 in G major, Op.78 (1878-79) by Johannes Brahms (1833-1897). In classical traditional violin playing, the violinist has to seek for quality of sound production in such elements timbre, nuance and purity. This tradition still existed in twentieth-century music and has been expanded and redefined in various ways. Berio (1925-2003) has demonstrated the strength of this musical tradition and the virtuosity of the violin in his *Sequenza VIII* (1976). He extended the concept of Bach's Chaconne (Partita II for Solo Violin BWV 1004) and enhanced it by the use of experimental compositional processes. Berio also challenged the performer's musicality and technical ability. Today, *Sequenza VIII* has become one of the major pieces on the list of many international competitions¹⁹¹ and festival auditions.¹⁹²

The tradition of violin playing techniques is still the foundation for performing contemporary violin works. This foundation includes scales and exercises for left and right hands. For contemporary violin performance, particularly when performing minimalist music, the training should include a concentration on physical fitness. This type of music frequently involves a large number of repetitive patterns and, therefore body movements. It challenges the violinist's mental and muscular coordination, and calls for body

¹⁹¹ For example, the semi-final repertoire of Rodolfo Lipizer Prize Violin Competition in Italy and Premio Paganini International Violin Competition in Genova.

¹⁹² The Lucerne Festival Academy located in Switzerland, founded by Pierre Boulez in 2003.

relaxation, acute hearing and precise intonation. The hidden meaning of simplicity in minimalism can be difficult and complicated to interpret. *Strung Out* (1967) by Philip Glass (b.1937) and *Violin Phase* (1967) by Steve Reich (b.1936) are examples of such minimalist writing. These works present serious challenges to the mind, the ear and physical control.

The sound production of contemporary violin playing often involves contrast and exaggeration. For instance, *Vier Stücke für Geige und Klavier*, Op. 7 (1910) by Anton Webern (1883-1945) contains a large number of extremes of dynamic markings and unusual playing techniques which represent a challenge to the violinist. New sounds and novel effects have required composers to notate their works differently, often in non-conventional ways such as by the use of graphic notation. Many of the works which have been discussed in this exegesis, in spite of their experimental nature, still preserve the essential concepts of the classical tradition. In *Threnody: To the Victims of Hiroshima* (1960), Krzysztof Penderecki (b.1933) uses “an unusual and dense approach to string writing”.¹⁹³ This piece requires string players to learn a large number of newly invented symbols and to appreciate the sound of the music in a different way. The piece also offers the violinist an opportunity to express and broaden his/her perspective of musical interpretation and expression.

The musical expression and interpretation of contemporary violin works display a diversity of imitation and imagination. The composer offers great freedom to the player and greater opportunity for the audience to exercise its imagination. For example, *Astéroïdes 325-328*

¹⁹³ Peter Elsdon with Björn Heile, “Personalalia,” in *The Cambridge History of Twentieth-Century History*, eds. Nicholas Cook and Anthony Pople (Cambridge: Cambridge University Press, 2004), 654.

for two violins by Marc Bleuse (b.1937) is based on *Le Petit Prince*.¹⁹⁴ In each titled movement, violinists have to imitate different characters and to express characters by a diversity of sound production.¹⁹⁵ The musical expression and interpretation also involve cross-cultural influence. Composers often employ imitation of different instrumental sounds and playing techniques from their homeland while they are studying abroad. This phenomenon also can be seen in performance. Performers who are from non-Western European countries often seek superior performance standards and desire to study overseas at the most highly recognised institutions. The composer Clarence Mak¹⁹⁶ provides an example in his *Image for Solo Violin* (1999). In this work, Mak transports the sound of *erhu*, *pipa*, *di*, and *zheng* and uses Western notation. The violinist can interpret the sound by the use of various left and right hand playing techniques, for example, *vibrato*, *glissando* and *microtones*. Performing this type of work provides an opportunity for the violinist from a Western or non-Western background, to convey the experience which helps to develop different musical abilities. The violinist from a Western European background could apply conventional playing techniques to imitate non-Western instrumental sounds.

The tradition is also expanded by the application of new technology. This greatly increases possibilities for adventurous performance and presentation. The violinist may choose to accompany him/herself in a public performance or could choose to play in different types of venue. Minimalist composers and members of L'IRCAM employ computer and new technology in their works and require the performer to play in an

¹⁹⁴ *The Little Prince* was written by French aviator Antoine de Saint-Exupéry and published in 1943.

¹⁹⁵ *Astéroïde 325 Le Roi* (the King), *Astéroïde 326 Le Vantieux* (the conceited person), *Astéroïde 327 Le Buveur* (the drunkard), *Astéroïde 328 Le Business* (the businessman).

¹⁹⁶ Professor Clarence Mak, born in Hong Kong, studied at the Chinese University of Hong Kong, Pennsylvania State University, and the Stanford University Centre for Computer Research in Music and Acoustics.

unorthodox way or in an unusual venue. For example, *Toccatina* (1986) by Helmut Lachenmann (b.1935) requires the violinist to hit the strings with the screw of the bow. The application of new technology also gives the audience different audio-visual experiences. In *Ashes of the Glacial Crescent for Amplified Violin* (2004) by Dr Hing-Yan Chan, for example, the composer indicates that the violinist has to perform outside the concert hall, with the concert hall lights turned off and with the sound of the violin amplified. The new technology compels the violinist to focus on the sound production more because the sound will not be delivered directly from the violin. Because of the use of technology such as the amplification attached to the instrument, the violin sound will not be heard in its natural purity. The violinist also has to focus more on the quality of the final sound. Whether the violin is expensive or not, sound might lose some of its quality because of the use of this technology.

There is a diversity of ways to manage the learning of these contemporary works, particularly by talking/writing to the composer, having regular lessons and practising. Direct communication with the composer provides a great opportunity to discuss the works. It can also be very enlightening to talk to musicians who have already performed the works. Having regular lessons is also a good way to achieve a high standard of performance and to remedy problems which have occurred during the independent study. Teachers' experiences can benefit students' learning process and provide constructive guidance which contributes to the standard of the performance. For a performer, making a public or informal performance is very helpful. The advantages are an improvement in the overall quality of the performance, simply as a result of the experience and the opportunity to receive feedback from colleagues and teachers. Any comments or judgements from

different people are very useful, because these help the violinist to develop his/her performance standard and to increase the level of confidence.

This exegesis represents an overview of violin techniques in the twentieth and twenty-first centuries through an examination of a number of works for violin. It demonstrates that these works are not strange, incomprehensible or unplayable. Today's performer has to discover the meaning of these works and to solve performance problems without the benefit of having heard the works performed by anyone else. Therefore, every performance is very personal and unique. The violinist is called upon to demonstrate his/her ability to understand the music, to display his/her command of performance skills and to convey the expression of the music. The music of this period provides a great opportunity for the violinist to demonstrate his/her understanding of new works. This challenge is demanding, adventurous and exciting.

At the beginning of the twenty-first century, violinists should appreciate the art of contemporary violin music. Violinists should aim to include contemporary compositions in their performance repertoire. Inclusion of such works in the performance repertoire will make the concert program more interesting and exciting. The art of contemporary violin music gives greater liberty to performers and it may broaden the audience's horizon. There are still a number of solo violin works composed after 1960 that have not yet been explored. They deserve to be performed and to become the subject of future analysis.

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Appendix A CD 1

Extended Techniques

Doctoral Recital 1

Kris Ho – Violin

Arabella Tenniswood-Harvey - Piano

31 August 2004, Friday, 7:30 p.m.

Recital Hall

W. A. Mozart (1756-1791)

- 1–2 Sonata for Piano and Violin in G major, K301/293a (1778)

Andrew Ford (b.1957)

- 3–5 *Like Icarus Ascending* (1984)

Gérard Gastinel (b.1949)

- 6–12 *Heptade: pour violon et piano*

Michèle Reverdy (b.1943)

- 13–15 *Trois Miniatures pour violon et piano*

Karen Gorden

- 16–19 *Quatre Petites Études pour violon et seul*

Anton Webern (1883-1945)

- 20–23 *Vier Stücke für Geige and Klavier Op.7* (1910)

Maurice Ravel (1875-1937)

- 24–26 Violin Sonata (1923-27)

Appendix B CD 2

Sonic Capabilities

Doctoral Recital 2

Kris Ho – Violin and electric violin

Dr. Shirley Trembath – Piano

Greg Cracknell- Sound engineer and Kelly Ottaway- Technical assistant

6 May 2005, Friday, 7:30 p.m.

Recital Hall

Georg Philipp Telemann (1681-1767)

- 1-3** Twelve Fantasias for Violin ohne Baß No.9 B minor, TWV40: 22 (1735)

Morton Feldman (1926-1987)

- 4** *Vertical Thought II* (1963)

Johannes Brahms (1833-1897)

- 5-7** Sonata No. 1 in G major, Op.78 (1878-79)

Philip Glass (b.1937)

- 8** *Strung Out* for Amplified Violin (1967)

Robert Davidson (b.1965)

- 9** *Arch Canon for Three Violins* (1992)

Appendix C CD 3

West and East

Doctoral Recital 3

Kris Ho – Violin and Peter Tanfield - Violin

Dr. Shirley Trembath – Piano

9 December 2005, Friday, 7:30p.m.

Recital Hall

Franz Schubert (1797-1828)

- 1–4 Sonatina D. 408 in G minor (Op. 137) (1816)

Olivier Messiaen (1908-1992)

- 5 Thème et Variations (1932)

Paul Hindemith (1895-1963)

- 6 Violin Sonata in E major (1935)

Charles Ives (1874-1954)

- 7-9 Violin Sonata No.4 “*Children’s Day At The Camp Meeting*” (1916)

Clarence Mak

- 10 *Image for Solo Violin* (1999)

Marc Bleuse (b.1937)

- 11-14 *Astéroïdes 325-328* (1989)

Michael Zbar (b.1942)

- 15 *Mesuré – non mesuré pour deux violons*

Appendix D CD 4

Electric Spirit

Doctoral Recital 4

Kris Ho – Violin

Sophy Greenlees – Piano

Dr. Heather Monkhouse – Clarinet

Penelope Witt – Cello

Greg Cracknell – Sound Engineer

Mark Joseph – Stage assistant

1 August 2006, 7:30 p.m.

Recital Hall

Hing-Yan Chan

- 1** *Ashes of the Glacial Crescent for Amplified Violin* (1999, revised edition 2004)

Larry Polansky (b.1954)

- 2** *Movement in E Major for John Cage* (1975, revised edition 1996)

Aram Khachaturian (1903-1978)

- 3** *Sonata-Monologue for Violin Solo* (1975)

Beat Furrer (b.1954)

- 4** *Lied* (1993)

Hans Ulrich Lehmann (b.1937)

- 5** *Arco* (1972)

Sarah Hopkins (b.1958)

- 6** *Reclaiming the Spirit* (1993)

Robert Davidson (b.1965)

- 7** *Arch Canon for Three Violins* (1992)

Damien Ricketson (b.1973)

- 8** *Prakour for Amplified Violin and Delay* (1994)

Appendix E CD 5

Gordon Prizes for excellence in Chamber Music Performance

David Le Guen – 1st Violin

Kris Ho – 2nd Violin

Penelope Witt – Cello

21 November 2003, 7:00 p.m.

Recital Hall

Arcangelo Corelli (1653-1713)

8 Chamber Sonata Op.4 No. 2 in G minor

Joseph Haydn (1732-1809)

9-10 String Trio Hob. V: G1 in G major

Arcangelo Corelli (1653-1713)

11-12 Chamber Sonata Op.4 No. 4 in D major

Appendix F 2003 concerts

Event	Time, date and venues	Accompanists and soloists	Program
“What’s The Buzz?” Conservatorium of Music Student Concert	24 August 1:00 p.m. Recital Hall	Leon Stemler - Piano	L. van Beethoven Violin Sonata Op. 24 III Scherzo
Gordon Prizes for excellence in Chamber Music Performance (See CD 5)	21 November 7:00 p.m. Recital Hall	David Le Guen - 1 st violin Kris Ho - 2 nd violin Penelope Witt - Cello	See Appendix E (See CD 4)
Spring Chamber Music Festival Contemporary and Classical Chamber Works for Violin and Piano	2 September 1:10 p.m. Recital Hall	Leon Stemler - Piano	1. L. van Beethoven Violin Sonata in F major Op. 24 2. Karen Gordon <i>Quatre Petites Études</i> 3. Andrew Ford <i>Like Icarus Ascending</i>
Young Conservatorium December Concert	12 December 6:00 p.m. Recital hall	Co-Directors Dr. Marina Phillips and Dr. Heather Monkhouse Performed two composition students’ works with Kris Ho and Rebecca Wade - violins Karen Smithies - Piano	

Appendix G 2004 concerts

Event	Time, date, and venues	Accompanists	Program
Postgraduate Series	13 July 1:10 p.m. Stanley Burbury Theatre	Arabella Tenniswood-Harvey - Piano	1. Andrew Ford <i>Like Icarus Ascending</i> 2. Gérard Gastinel <i>Heptade pour violon et piano</i> 3. Michèle Reverdy <i>Trois Miniatures</i>
Extended Techniques Doctoral Recital 1 (See CD 1)	31 August 7:30 p.m. Recital Hall	Arabella Tenniswood-Harvey - Piano	See Appendix A (CD 1)
Student Sounds – Postgraduate Penelope Witt and Kris Ho Concert	5 October 1:10 p.m. Stanley Burbury Theatre	Leon Stemler - Piano	J. Brahms Sonata No. 1 Violin and Piano in G major Op. 78
Sonic Capabilities	2 December 7:30 p.m. Recital Hall	Dr. Shirley Trembath - Piano Kelly Ottaway - Sound Engineer	1. G.P. Telemann Twelve Fantasias for Violin Solo no. 9 B minor TWV40:22 2. Morton Feldman <i>Vertical Thought II</i> 3. J. Brahms Violin Sonata No. 1 in G major, Op. 78 4. Philip Glass <i>Strung Out</i> for Amplified Violin 5. Robert Davidson <i>Arch Canon for Three Violins</i>

Appendix H 2005 concerts

Event	Time, date, and venues	Accompanists and solo	Program
String Department Concert	12 April 1:10pm Stanley Burbury Theatre	Kelly Ottaway - Stage Assistant	Philip Glass <i>Strung Out</i> for Amplified Violin
Doctoral Recital 2 (See CD 2)	6 May 7:30 p.m. Recital Hall	Dr. Shirley Trembath - Piano Greg Cracknell - Sound engineer Kelly Ottaway - Assistant	See Appendix B (CD 2)
Tasmanian Conservatorium Composers' Recital	24 May 1:10p.m. Recital Hall	David Elliston's work	<i>Spirit Flame for Solo Violin</i>
Graduation Ceremonies Program	5 and 6 August Stanley Burbury Theatre	Jules Massenet (1842 - 1912)	<i>Meditation from Thais</i>
Tasmanian Conservatorium of Music String & Brass Students in Recital	27 August 11a.m. Meadowbank Estate Winery	Dr. Shirley Trembath - Piano	P. Hindemith Sonate in E major
Contemporary Student Performance presented by Mark Joseph – voice and Damien Kingston – Guitar	17 October 6 p.m. Recital Hall	String Quartet	1. She's Leaving Home – John Lennon and Paul McCartney 2. I remember You – Johnny Mercer
Simple Gifts	25 November 7:30p.m. - 8:30p.m. Moonah Arts Centre	Dr. Shirley Trembath - Piano Charlotte McKercher - Soprano	1. F. Schubert <i>Sonatina in G minor D 408</i> Op. 137 No. 3 2. C. Ives Sonata for Violin and Piano No. 4 <i>"Children's Day At The Camp Meeting"</i>
West and East Doctoral Recital 3 (See CD 3)	9 December 7:30p.m. Recital Hall	Dr. Shirley Trembath - Piano Kris Ho and Peter Tanfield - Violins	See Appendix C (CD 3)

Appendix I 2006 concerts

Event	Time, date, and venues	Accompanists and soloists	Program
Conservatorium Chamber Soloists directed by Peter Tanfield	26 May 7:30 p.m. St Mary Cathedral	St. Mary's Cathedral Concert for Three Violins in D major (BWV 1064) Peter Tanfield - 1 st violin Daniel Wahl - 2 nd violin Kris Ho - 3 rd violin	1. G. Torelli Sinfonia No. 1 in D major 2. J. S. Bach Concerto for Two Violins in D minor (BWV 1043) 3. J. S. Bach Concerto for Three Violins in D Major 4. J. S. Bach <i>Brandenburg</i> Concerto No 3 in G major (BWV 1048) 5. F. Mendelssohn-Bartholdy Symphony for Strings No. 9 in C major (the Swiss)
Doctoral Recital 4 (See CD 4)	1 August 7:30 p.m. Recital Hall	Kris Ho - Violin Sophy Greenlees - Piano Dr. Heather Monkhouse - Clarinet Maria Lurighi - Soprano Penelope Witt - Cello Greg Cracknell - Sound engineer Mark Joseph - Stage assistant	See Appendix D (CD 4)

Appendix J Website

A web-based page data disc

Appendix K Finger Position Diagram

This is an adaptation of Gerle's finger position diagram which is used to indicate the finger position on different strings from open strings to the eighth finger position. This diagram is particularly useful for learning between page 8 and page 9 of Berio's *Sequenza VIII*.

				Finger Position
G ^{IV}	D ^{III}	A ^{II}	E ^I	
a _b	e _b	b _b ¹	f ²	1.P.
a	e ¹	b ¹	f ^{#2}	
b _b	f ¹	c ²	g ²	2.P.
b	f ^{#1}	c ^{#2}	g ^{#2}	
c ¹	g ¹	d ²	a ²	3.P.
c ^{#1}	g ^{#1}	d ^{#2}	a ^{#2}	
d ¹	a ¹	e ²	b ²	4.P.
e _b	b _b ¹	f ²	c ³	
e ¹	b ¹	f ^{#2}	c ^{#3}	5.P.
f ¹	c ²	g ²	d ³	
f ^{#1}	c ^{#2}	g ^{#2}	d ^{#3}	6.P.
g ¹	d ²	a ²	e ³	
a _b ¹	e _b ²	b _b ²	f ³	7.P.
a ¹	e ²	b ²	f ^{#3}	8.P.

Reproduced from

Gerle, Robert. *The Art of Practising The Violin: With Useful Hints for All String Players*. London: Stainer & Bell, 1983, 27.

Appendix L Reproduced from *Heptade* with English translation

Présentation

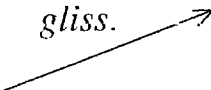

Heptade


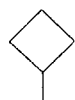
Heptade, est un ensemble de sept courtes pièces pour violon et piano, composées à des fins pédagogiques autour d'un thème non formulé. Présentées comme de courtes improvisations guidées, ces séquences doivent permettre aux jeunes instrumentistes de se familiariser avec une écriture plus *contemporaine* que d'ordinaire. Les interprètes construisent eux-mêmes à leur convenance la structure finale. La **couleur de son** et l'**atmosphère** doivent rester l'élément musical essentiel, car unificateur, de ces sept duos.




Chaque pièce propose un **mode de jeu** particulier, une difficulté spécifique sous le couvert d'une notation explicite, quoique fréquemment plus schématique que d'ordinaire. Outre un choix personnel au plan du tempo et de la nuance, l'interprétation impose à chacun des deux musiciens une écoute attentive de l'autre, tant au niveau du phrasé que de la sonorité, afin de parvenir à un ensemble cohérent.




(See p. 121 for the English translation.)


Les 7 pièces peuvent être jouées dans un ordre libre nécessairement différent de celui proposé.


gliss.  glissando  tenir; prolonger la (les) notes

 cluster touches noires et blanches  enfoncer sans jouer

 cluster touches blanches  accel.  bref

 cluster touches noires  rall.  très bref

+ main gauche **CLB** col legno battuto  le plus bref possible

 pizz. Bartok **J.N.** jeu normal

Gérard Gastinel

Reproduced from

Ghestem, Jacques, ed. *Approche de la Musique Contemporaine au Violon*. Paris: Gérard Billaudot Éditeur, 1992, 38.

Translated by Paul Hubbard

Heptade, is a set of seven short pieces for violin and piano, written for educational purposes rather than according to a formula. Presented as short guided improvisations, these sequences should permit young musicians to familiarise themselves with more modern writing than usual. The players themselves adapted the final structure as they see best. The tonal colour and atmosphere must remain the central musical element as the unifying feature of the seven duos.

Each piece presents particular playing styles, and a specific difficulty shown by explicit notation rather more schematic than usual. Besides a personal choice of tempo and nuance the interpretation requires that each of the two musicians listen attentively to the other, as much to phrasing as to tone, in order to form a coherent ensemble. The seven pieces can be played in any order.

Appendix M Original Text from Luciano Berio: *Sequenzas*

Sono molto attratto dalla trasformazione lenta e dignitosa degli strumenti e delle tecniche strumentali (e vocali) attraverso i secoli. È forse per questo, anche, che in tutte le mie Sequenze non ho mai cercato di alterare il patrimonio genetico dello strumento, né ho mai cercato di usarlo 'contro' la sua stessa natura.

(See English translation on p. 49.)

Reproduced from

Berio, Luciano. Liner notes. *Sequenzas*. Translated by David Osmond-Smith. Hamburg:

Deutsche Grammophon GmbH, 457 0402, 1998, 9-10.

Appendix N *Sequenza* series

<i>Sequenza</i>	Solo instrument	Years	Main soloists	Première dates	Locations
<i>Sequenza I</i>	Flute	1958	Severino Gazzelloni		Darmstadt, Germany
<i>Sequenza II</i>	Harp	1963	Francis Pierre		Darmstadt, Germany
<i>Sequenza III</i>	For felame's voice	1966	Cathy Berberian		Bremen, Germany
<i>Sequenza IV</i>	Piano	1965	J. de Carvalho		St. Louis, U.S.A.
<i>Sequenza V</i>	Trombone	1966	Stuart Dempster		San Francisco, U.S.A.
<i>Sequenza VI</i>	Viola	1967	Walter Trampler		New York, U.S.A.
<i>Sequenza VIIa</i>	Oboe	1969	Heinz Holliger		Basel, Switzerland
<i>Sequenza VIIb</i>	Soprano saxophone	1969			
<i>Sequenza VIII</i>	Violin	1976	Carlo Chiarappa	1 January 1977	La Rochelle, France
<i>Sequenza IXa</i>	Clarinet	1980	Michel Arrignon	1 January 1977	Paris
<i>Sequenza IXb</i>	Alto Saxophone	1980	John Harle	1 January 1981	London
<i>Sequenza IXc</i>	Bass clarinet in B ^b	1980	Rocco Parisi	17 October 1997	Torino, Italy
<i>Sequenza X</i>	Trumpet in C with amplified piano resonance	1984	Thomas Stevens	1 January 1984	Los Angeles, U.S.A.

<i>Sequenza</i>	Solo instrument	Years	Main soloists	Première dates	Locations
<i>Sequenza XI</i>	Guitar	1988	Eliot Fisk	20 April 1988	Rovereto, Italy
<i>Sequenza XII</i>	Bassoon	1997	Pascal Gallois	15 June 1995	Paris, France
<i>Sequenza XIII</i>	Accordion “Chanson”	1995	Teodoro Anzellotti	9 November 1995	Rotterdam, Netherlands
<i>Sequenza XIV</i>	Cello	2002	Rohan de Saram	28 April 2002	Witten, Germany
<i>Sequenza XIVb</i>	Double bass	2002/ 2004	Stefano Scodanibbio	15 June 2004	Theaterhaus Stuttgart Stuttgart, Germany

Appendix O A list of the repertoire

Not all compositions addressed here are used in the exegesis, but all are significant contributions to specific violin playing techniques. The relevant list of works here is based on violin solo and violin and piano music composed between 1960 and 2006. This list may prove useful for scholars and performers who wish to explore works which extend the technique demands for violinists.

Composer	Composition(s)
John Adams (b.1947)	<i>Road Movies</i> (1995)
Samuel Adler (b.1928)	Sonata No. 3 (1965) <i>Meadowmount Etudes: Four Studies of 20th-century techniques for Solo Violin</i> (1988)
Louis Andriessen (b.1939)	<i>Disco</i> (1982)
Milton Babbitt (b.1916)	<i>Melismata</i> (1982)
Luciano Berio (b.1975)	<i>Sequenza VIII</i> (1976)
Pierre Boulez (b.1925)	<i>Anthèmes pour violon seul</i> (1992) <i>Anthèmes II pour violon et dispositif électronique</i> (1997)
John Cage (1912-1992)	<i>Cheap Imitation</i> (1977) <i>Chorals for Violin Solo</i> (1978) <i>Freeman Études</i> (Book I and II 1980, Book III and IV 1990) <i>One</i> ⁶ (1990) <i>Two</i> ⁴ (1991) <i>Two</i> ⁶ (1992)
Elliott Carter (b.1908)	<i>4 Lauds</i> (1984–2001): 1 <i>Riconoscenza per Goffredo Petrassi</i> (1984); 2 <i>Statement – Remembering Aaron</i> (1999); 3 <i>Fantasy – Remembering Roger</i> (1999); 4 <i>Rhapsodic Musings</i> (2001)
Barney Childs (1926-2000)	<i>Fantasy-Variations</i> (8 Poems by Yvor Winters) (1992)

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Luciano Berio (b.1975)	<i>Sequenza VIII</i> (1976)
Pierre Boulez (b.1925)	<i>Anthèmes pour violon seul</i> (1992) <i>Anthèmes II pour violon et dispositif électronique</i> (1997)
John Cage (1912-1992)	<i>Cheap Imitation</i> (1977) <i>Chorals for Violin Solo</i> (1978) <i>Freeman Études</i> (Book I and II 1980, Book III and IV 1990) <i>One</i> ⁶ (1990) <i>Two</i> ⁴ (1991) <i>Two</i> ⁶ (1992)
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Barney Childs (1926-2000)	<i>Fantasy-Variations</i> (8 Poems by Yvor Winters) (1992)

Composer	Composition(s)
Aaron Copland (1900-1990)	<i>Duo</i> (1977)
George Crumb (b.1929)	Four Nocturnes for Violin and Piano (Night Music II) (1964)
Edison Denisov (1929-1996)	Sonate (1973)
Franco Donatoni (1927-2000)	<i>Argot Due Pezzi Per Violino</i> (1979)
Gottfried von Einem (1918-1996)	<i>Ollapotrida: Sieben Studien für Violine Solo</i> , Op. 101 (1993)
Morton Feldman (1926-1987)	<i>Vertical Thought II</i> (1963) <i>Spring of Chosroes</i> (1977) <i>For John Cage</i> (1982)
Brian Ferneyhough (b.1943)	<i>Intermedio alla ciaccona</i> (1986) <i>Unsichtbare Farben</i> (1998)
Beat Furrer (b.1954)	<i>Lied</i> (1993)
Philip Glass (b.1937)	<i>Strung Out</i> (1967)
Vinko Globokar (b.1934)	<i>Limites</i> (1973)
Henryk Górecki (b.1933)	<i>Trzy małe utwory (3 Little Pieces)</i> , Op.37 (1977) <i>Kolysanki i tańce (Lullabies and Dances)</i> Op.47 (1982) <i>Little Fantasia</i> , Op.73 (1997)
Sofiya Gubaydulina (b.1931)	<i>Tantsovshchik na kanate (Dancer on a Tightrope)</i> (1993)
Hans Werner Henze (b.1926)	<i>Étude philharmonique für Violine Solo</i> (1979)
Heinz Holliger (b.1939)	<i>Trema version für violine</i> (1981-3)
Nicolaus A. Huber (b.1939)	<i>Solo für einen Solisten</i> (1980-81)
Dmitry Kabalevsky (1904-1987)	Rondo Op.69 (1961)
Elena Kats-Chernin (b.1957)	<i>Patina</i> (2001) <i>Interlude 2</i> (2002)
Aram Khachaturian (1903-1978)	<i>Sonata-Monologue for Violin Solo</i> (1975)
György Kurtág (1926)	<i>3 pezzi</i> , Op.14e (1979)

Composer	Composition(s)
Helmut Lachenmann (b.1935)	<i>Toccata</i> (1986)
Witold Lutosławski (1913-1994)	<i>Partita</i> (1984) <i>Subito</i> (1992)
Bruno Maderna (1920-1973)	<i>Pièce pour Ivry</i> (1971)
Luigi Nono (1924-1990)	<i>La lontananza nostalgica utopica futura madrigale per più "caminantes" con Gidon Kremer violino solo 8 nastri magnetici da 8 a 10 leggi (1988-89)</i> <i>"Hay que caminar" soñando</i> (1989)
Michael Nyman (b.1944)	<i>Yamamoto Perpetuo</i> (1993)
Arvo Pärt (b.1935)	<i>Fratres</i> (1980)
Larry Polansky (b.1954)	<i>Four Violin Studies</i> (1980) <i>Little Maggie</i> (1984)
Henri Pousseur (b.1929)	<i>Chaconne</i> (1996) <i>Flexions III</i> (1979) <i>La Paganiana</i> (1982) <i>3 petits caprices sur une mélodie populaire hongroise</i> (1993)
Steve Reich (b.1936)	<i>Violin Phase</i> (1967)
Wolfgang Rihm (b.1952)	<i>Antlitz</i> (1993) <i>Phantome and Eskapade</i> (Stückphantasien, 1993-95)
George Rochberg (b.1918)	<i>Caprice Variations for unaccompanied violin</i> (1970)
Kaija Saariaho (b.1952)	<i>Nocturne</i> (1994)
Giacinto Scelsi (1905-1988)	<i>Xnoybis</i> (1964) <i>L'âme Ailée pour Violon Solo</i> (1973)
Alfred Schnittke (1934-1998)	<i>Quasi una sonata</i> (1968) <i>À Paganini</i> (1983)
Gunther Schuller (b.1925)	<i>Duologue (Four Characteristic Pieces)</i> (1983)
Larry Sitsky (b.1934)	<i>Sonata</i> (1995)
Karlheinz Stockhausen (b.1928)	<i>In Freundschaft</i> (1977)

Composer	Composition(s)
Toru Takemitsu (1930-1996)	<i>Hika</i> (Elegy) (1966) <i>Jūichigatsu no kiri no kanata kara</i> (From Far Beyond Chrysanthemums and November Fog) (1983)
Christian Wolff (b.1934)	<i>Duo for Violinist and Pianist</i> (1961) <i>Bread and Roses</i> (1976, violin version) <i>The Death of Mother Jones</i> (1977)
Stefan Wolpe (1902-1972)	<i>Second Piece for Violin Alone</i> (1966)
Iannis Xenakis (1922-2001)	<i>Mikka</i> (1971) <i>Mikka "S"</i> (1976) <i>Dikhthas, pour Piano et Violon</i> (1979)
Isang Yun (1917-1995)	<i>Königliches Thema</i> for solo violin (after J. S. Bach: <i>Musikalischen Opfer</i>) (1976) <i>Li-Na im Garten</i> (1985)